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TABLE OF CONTENTS

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ORIGINAL ARTICLES

A CASE OF GENERAL PROGRESSIVE MUSCULAR ATROPHY, WITH RECOVERY. By Joel E. Goldthwait, M.D., Boston.....	559
HARMATUM. By Edward L. Young, Jr., M.D., Boston.....	561
A REVIEW OF A YEAR'S THYROID WORK. By Frank H. Lakey, M.D., Boston.....	563
PRELIMINARY REPORT OF THE MENTAL CLINIC OF THE WORCESTER STATE HOSPITAL. By George F. Caldwell, M.D., Worcester, Mass.....	568
SPINAL AND CERVICAL PUNCTURE, WITH LAVAGE, FOLLOWING APERTURE ATTACK IN FALLEN. By A. H. Ruggles, M.D., and A. T. Wyant, M.D., Providence, R. I.....	572
EVALUATION OF INTELLIGENCE TESTS IN CRIMINAL CASES. By George L. Walton, M.D., Boston.....	574

CURRENT LITERATURE DEPARTMENT

THE ETIOLOGY OF RICKETS.....	576
PHYSICAL EDUCATION IN THE UNIVERSITIES OF THE UNITED STATES.....	577
DIAPHRAGMATION OF THE KIDNEYS IN BRIGHT'S DISEASE.....	577
THE INFLUENCE OF FOODS RICH IN ACCESSORY FACTORS IN STIMULATING DEVELOPMENT IN BACKWARD CHILDREN.....	577
LIPODYSTROPHIA PROGRESSIVA, WITH REPORT OF A CASE.....	577
PREGNANCY AND LABOR IN YOUNG PRIMIPARAE.....	577

THE RADIOGRAPHIC EVIDENCE OF THE INFLUENCE OF COB-LAYER (OIL IN RICKETS).....	577
EXPERIMENTAL INOCULATION OF HUMAN THROATS WITH VIBRIENT DIPHTHERIA BACILLI.....	578
THE GENERAL PRINCIPLES OF TREATMENT IN TUBERCULOUS DISEASE OF THE BONES AND JOINTS IN CHILDREN.....	578
A COMPARATIVE ANALYSIS OF 213 FOREARM AND LEG FRACTURES.....	578
JOHN FERRIS.....	578
NOVATROPIN.....	578
EDITORIALS	
PURGING THE MEDICAL PROFESSION.....	579
A CHALLENGE TO CHRISTIAN SCIENCE.....	580
NEWS ITEMS.....	581

MISCELLANY

STAFF CLINICAL MEETING, MASSACHUSETTS GENERAL HOSPITAL, MARCH 12, 1922.....	583
LEGISLATIVE MATTERS.....	585
SUMMER COURSES IN PUBLIC HEALTH AND HEALTH EDUCATION.....	588
CORRESPONDENCE	
ON THE REVIEW OF DR. BULKLEY'S BOOK. By L. DUNCAN Bulkley, M.D.....	589

Original Articles.

A CASE OF GENERAL PROGRESSIVE MUSCULAR ATROPHY, WITH RECOVERY.

By JOEL E. GOLDTHWAIT, M.D., BOSTON.

THE following case is reported partly because of its unusual result in the light of the general teaching, but chiefly because of the stimulus which such a result should be to all who have to do with the care of the chronic conditions, no matter how hopeless they may commonly be considered. In the study of the case a hopeful attitude of mind was held, the patient fully understanding the hopelessness of his condition under ordinary teaching, but appreciated the honest efforts that were being made to unravel the mysteries of his condition, and gave himself, with much enthusiasm, to co-operation in all of the studies and treatment, with a result that was better than any had dared to expect.

In the report of the case, there is much that is lacking in scientific detail of cause and effect, but no apology is considered necessary, since most of the advances in the treatment of disease have started as empirical measures, the scientific explanation of the results coming later. In this case, the important thing is that a man who was markedly crippled and was be-

coming steadily more helpless, is today fully well and at the head of a large business. The "why" may be honestly discussed in any scientific body, but since the relief has followed certain specific routine of treatment which is similar to that used successfully in other conditions of disturbed physiology, it seems not unreasonable to urge the use of such measures until the so-called "exact methods" of science can guide us more wisely.

The case has already been reported with its biochemical history, by Dr. F. H. McCrudden,* and is reported more fully at this time in order to put on record the complete clinical history with the result based upon several years of trial under the ordinary conditions of life since the treatment was ended.

The patient, a man of 33 years of age, first consulted me in September, 1915. He was a business man, a resident of one of the Southern cities. He was married and the father of three healthy children, with nothing peculiar in his family or previous history that would be of significance in his present condition.

The history of the present condition is that about eight months previously, the patient began to notice that his legs were not of the usual strength, that he tired easily and felt insecure on his feet. Two months later, in trying to run a few steps, his knees gave out so that he

*Archives of Internal Medicine, 1916, Vol. 17, p. 485. Jour. A.M.A., 1916, Vol. 70, p. 1216

fell. At that time he was able to get up without assistance, but about a month later, in making a slight but sudden move, he fell again, and at this time was unable to get up without help. At this time, almost as soon as he was gotten upon his feet, his legs gave way again, so that once more he fell. Since that time, the weakness in the legs gradually increased, so that walking or standing was very difficult, and was possible only as the hands were pressed against the anterior part of the thighs to hold the knees from flexing; rising from the chair was impossible except as the arms were used; going over the stairs was impossible; and if the patient fell, it was entirely impossible for him to get up without assistance.

For the two or three months previous to this first examination, the weakness of the hands and arms began to be noticed, a condition which has gradually increased so that he is unable to fasten the small buttons of his clothes.

Upon further questioning, the patient stated that for four or five years he had seemed to be weak in the knees and ankles, there being a good deal of snapping in use, with stiffness in the morning, the weakness always being worse after moderate use.

The examination made at that time showed a patient of mixed anatomic structure, having some of the characteristics of the so-called normal and some of the slender type. The body was used in very poor poise, with the chest low, the abdominal wall thin and relaxed, so that the viscera were imperfectly supported, and with an exaggeration of the normal lumbar curve of the spine.

He was able to walk with difficulty with the thighs supported, was unable to rise from the chair except with the use of the hands and arms. The muscles of the legs were very much atrophied. There was no apparent paralysis, all of the muscles responding to voluntary effort, but with much less than the normal strength. The reflexes were all diminished. There were no permanent contractures. The voluntary raising of the leg with the knee straight was impossible.

The muscles of the arms and shoulders showed a similar condition, only less advanced. The trunk and abdominal muscles were weak but not paralyzed.

There was no evidence of joint disease, and while the pelvic joints were relaxed, as one would expect with such a weakened musculature, this was not an important factor in the disability.

A diagnosis of progressive muscular atrophy was made, the prognosis of the textbooks given, and the patient urged to enter the hospital for study, hoping that something could be found to modify this result.

The patient entered the Robert B. Brigham

Hospital, and was most thoroughly studied by Dr. Louis M. Spear, for the general medical examinations; by Dr. George Clymer, for the neurological study; by Dr. Francis S. McCruden, for the biochemical study, and the mechanics of the physiology was studied by Dr. Lloyd T. Brown and the writer.

There was no question regarding the diagnosis. There was nothing revealed in the general examination that indicated disease of the organs. The blood examination was not peculiar except that there was an almost total absence of the sugar and creatinin, which was interesting because of the marked atrophy of the muscles where the sugar is naturally stored.

The study of the mechanics of the physiology showed the low chest with marked ptosis of the diaphragm, with the loosely attached abdominal viscera of the slender anatomic type, their position being much lower than normal owing to the sagging of the diaphragm and the weakened abdominal wall.

Recognizing that with the low diaphragm and consequently the slightly moving diaphragm, the circulation of the abdominal viscera must be interfered with, since the blood is pumped back from the abdomen to the heart almost entirely by the contractions of the diaphragm acting upon the upwardly opening valves in the veins, correction of this seemed the logical first move. Some of the reasons for this are: first, that in a position of lordosis in which the diaphragm must be low, albumin in the urine can be produced comparatively easily in a good many individuals and that this can be relieved by the correction of the lordosis, the so-called "orthostatic" or "lordotic" albuminuria. Second, that sugar in the urine can be influenced for or against, at times, by simple disturbances of the mechanics of the body as it concerns the abdomen. Third, that disturbances of the digestion can be very definitely influenced by peculiar postures, especially those which influence the position and action of the diaphragm. Recognizing these facts, and in the lack of more specific findings, it seemed reasonable to correct the faulty mechanics and do everything possible to stimulate the general physiology.

The patient was put to bed, all pillows were taken away, so that the body was kept fully straight, with the chest raised instead of the usual flexed position which results from the pillows as commonly placed under the head and shoulders. In this position the diaphragm must necessarily be raised to about the normal position, which is midway between full inspiration and full expiration, in which, unless actual paralysis of the diaphragm exists, the action will be adequate to insure the normal return flow of blood from the abdomen to the heart. To accentuate this action, several periods of a half-hour each were used with the patient in

the so-called "hyperextended position," with a moderate-sized pillow under the dorsal spine, with the arms raised and the hands clasped under the head. This position, when analyzed, is that taken in yawning, which is, of course, a reflex effort to relieve abdominal distress.

Stimulating baths were given to help the physiology through the stimulation of the superficial sympathetic nervous system. For similar reasons light massage was given, especially of the muscles of the back and loin.

After the examinations had been completed, showing the low blood sugar and creatinin, in the hope of more rapidly improving his general vitality, small doses of adrenalin and pituitary extract were used, but before this was started, in the period during which the examinations were being made, in which no treatment was given other than the physiotherapy and the special postures, very marked signs of improvement showed.

In two weeks' time, the color had improved markedly, the muscles were in distinctly better tone. In three weeks, the patient could raise the straight leg from the bed, and at this time he was fitted to a brace which held the body fully erect and prevented flexion at the waist line, with the necessary lowering of the diaphragm. With this brace on, he was allowed up for short periods, and special exercises started to stimulate the development of muscles of the chest and trunk. During the rest of the time, each day, he was kept in the horizontal position, and to prevent the common bending at the waist line (dorso-lumbar level) in the many movements made in bed, a plaster of Paris jacket was fitted and worn, except as it was removed for bathing or exercise, or when he was up with the brace.

The diet was carefully watched by Dr. Spear, and made as abundant as the patient could stand, this including increase in the usual amounts of sugar.

The patient made a very rapid recovery, with the improvement showing strikingly after the first two weeks. He remained in the hospital for seven weeks, using the brace when up and about and continuing the special postures with frequent rest periods, during the day.

Upon leaving the hospital, the patient made daily visits to the office gymnasium, the entire emphasis being put upon the development of the body to the fully erect position, and continued the horizontal postural treatments at his rooms.

At the end of eight weeks, not only was the functional condition markedly better, but the examination of the blood showed normal sugar and creatinin.

At the end of nine weeks from the time of his first examination, he returned home to continue his treatment there. At this time he was able to rise from chair without the aid of his

hands; he was able to walk without supporting the thighs with the hands, and by steadying himself with one hand upon the balustrade, was able to go over the stairs.

The patient was then seen at intervals of three or four months for several times, with gradually lengthening intervals, for three years. During this time the general exercises were continued, and apparatus was used to hold the body erect until the muscles had become adequately trained for their work. No drugs were used after first leaving the hospital. Once when the blood examinations were made, the sugar was found to be low, this apparently being due to general fatigue and less regular use of the physical routine. This was quickly corrected and the patient, when last seen, in 1919, was fully well and equal to all that should be expected of an active man. He is regularly at his business and, from letters received,—the last within a month,—his condition is apparently as good as when last examined.

The case is reported for what it is worth. There is much that cannot fully be explained, but the result followed definite reconstruction measures which have been of help in other conditions with disturbed physiology, and this is suggestive. With more experience and with new methods of estimating physiologic conditions, it may be possible to explain the features now imperfectly understood. As a case, it has been a great stimulus to me in the study of other perplexing medical problems, and it is my hope that it will serve the same purpose with others.

HAEMATURIA.

By EDWARD L. YOUNG, JR., M.D., BOSTON.

A LITTLE over a year ago a series of one hundred cases of haematuria, seen in private practice, was presented.¹ In view of the conclusions reached, it seemed worth while to get every possible view of the subject covered. With that in mind I went over all the cases on the genito-urinary service of the Massachusetts General Hospital for a period of ten years, to see how far the facts obtained from the hospital class of patient would bear out the conclusions reached in considering a series of private patients. It must be borne in mind that these cases are those which are serious enough to have been sent into the hospital for treatment. Accordingly they do not include certain cases of acute urethritis and prostatitis, and a few cases of urethral polyp and certain cases of papilloma of the bladder treated in the out-patient by fulguration. What proportion of the total number this latter group of out-patient cases represents

I have no means of telling accurately, but I believe it is relatively slight. One exception must be noted. Chronic nephritis is a common source of bleeding (I believe the commonest cause of presence of small amounts of blood in the urine that there is) and most of these cases, except where they reach the genito-urinary service on a mistaken diagnosis, as well as all cases of acute nephritis, were of course not seen in this series. With these exceptions, I think the cases given represent a very good view of the condition.

About 46 per cent. of all cases in the House during this time had haematuria at some stage of the game or other, as a prominent symptom, and by that I mean gross blood which attracted the attention of the patient and about which he had no doubt in talking, even though it did not necessarily send him to the doctor at the time he first noticed it. It is interesting to note that nearly every diagnosis represented in the House cases showed haematuria at some stage or other. It may well be that the final diagnosis on which the patient left the hospital may not have been the actual cause of bleeding, but no other pathological condition in the urinary tract was ever found.

LIST OF CASES SHOWING HAEMATURIA.

Carcinoma of Bladder.....	57
Papilloma of Bladder.....	21
Prostatism, Obstructing	
1. Benign.....	88
2. Malignant.....	17
Hypernephroma.....	8
Sarcoma of Kidneys.....	1
Urinary Tuberculosis.....	89
Genital Tuberculosis.....	17
Stone in Bladder.....	41
Stone in Ureter.....	48
Stone in Kidney.....	70
Essential Haematuria.....	22
Pyelitis.....	20
Stricture.....	41
Tumor Anterior Vaginal Wall.....	1
Chronic Nephritis.....	2
Diverticulum.....	5
Hydronephrosis.....	7
Radium Burns of Bladder.....	1
Encrusted Cystitis.....	1
Stricture of Ureter.....	4
Ruptured Kidney.....	3
Nephroptosis.....	5
Foreign Body in Bladder.....	1
Horseshoe Kidney.....	2
Angioneurotic Oedema.....	1
Urethritis.....	1
Chronic Inflammation Bladder.....	1
Vesical Fistula.....	6
Prostatic Abscess.....	4
Urethral Fistula.....	1
Periurethral Abscess.....	1
Nephrectomy Sinus.....	2
Prostatic Calculus.....	2
Seminal Vesiculitis.....	3
Echinococcus Cyst of Kidney.....	1
Ulcer of Bladder.....	8
Arteriosclerosis.....	1
Extravasation of Urine.....	1
Pilularia.....	1
Perinephritic Abscess.....	3
Necrosis of Bladder.....	1

This list speaks for itself. There are a few things, however, that are worth emphasizing.

If we include tumor of the bladder and kidney, prostatism, tuberculosis and lithiasis together, they make up four hundred and fifty-seven cases, or 76 per cent. of the total number. All of these are serious conditions. Urinary lithiasis, however, is the least dangerous of all and should give a good prognosis. If these cases are omitted it leaves two hundred and ninety-eight, or practically 50 per cent. of the total number, in which the cause of the haematuria lies in a disease which is serious at the best, in which treatment must be undertaken at the right time and with great care in order to give any but a serious prognosis.

Let us next consider the haematuria as a presenting symptom without other accompanying symptoms. We find the following list very significant:

HAEMATURIA AS A PRESENTING SYMPTOM.

	Total No. Cases.	Bleeding. Presenting Symptom In.
Carcinoma of the Bladder...	60	57
Papilloma of the Bladder...	21	21
Prostatism—Benign.....	181	88
Prostatism—Malignant.....	33	17
Hypernephroma.....	10	8
Sarcoma of Kidneys.....	1	1
Urinary Tuberculosis.....	147	89

If we except tumor of the bladder, bleeding was in the majority of cases only one symptom out of many, even though in certain cases it was the main thing which brought the patient to the clinic.

In stone of the bladder and kidney it is interesting to note that it can be the presenting symptom with none of the other classical symptoms present to point toward stone.

The ordinary urethral stricture is not generally associated with haematuria in the minds of most of us, yet it is a striking fact that forty-one cases, out of a total of one hundred and seventeen treated during this time, had haematuria, although in none of them was it a presenting symptom. In all of these cases the diagnosis was of course proved as regards the stricture and carefully worked out as far as possible in ruling out other possible sources of bleeding.

I think that the other side of the picture, in regard to accompanying symptoms, will also bear emphasis; that is to say, a hypernephroma, or a renal calculus, for instance, may show itself with various symptoms, either with or without haematuria, and that in making a diagnosis all possibilities must be considered before coming to a definite conclusion.

According to this table, seventeen cases of tuberculosis of the epididymis showed urinary bleeding. This is absurd if we consider the infection as limited entirely to the epididymis.

It means, of course, that deep involvement is present.

There are twenty-two cases of so-called "essential haematuria," that is to say, gross bleeding from the kidney, in which it was not possible to make an accurate diagnosis. This series of twenty-two was discussed separately.*

In a series of seventy-four cases of neoplasm of the kidneys, studied by Barney,³ haematuria occurred in thirty-nine cases only. In the eleven cases here mentioned, nine had that symptom present. It is also interesting to note that two out of three ruptured kidneys had bleeding only as one of several symptoms. They were, of course, partial ruptures of long standing, but the mere fact of other symptoms apparently dominating should not lead us away from the possibility of such a condition. In view of the recent work done by Hunner,⁴ the small number of ureteral strictures is interesting. Microscopic blood was a common finding in his cases and it may be that, in common with many other urologists, we failed to recognize the lesser degrees of this condition, and only five of the most marked cases were satisfactorily demonstrated. It is important to know that four out of five of these cases had haematuria.

SUMMARY.

Haematuria as a symptom must always be viewed with suspicion as it is caused by a serious underlying condition in such a large percentage of cases.

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A REVIEW OF A YEAR'S THYROID WORK.*

BY FRANK H. LAHEY, M.D., BOSTON.

From year to year, with a greatly enlarging thyroid background, we have had occasion to review and at times revise our conceptions and opinions regarding the various phases of thyroid disease; we accordingly feel that a presentation of the results of the review of this year's work will be of interest and value.

We still believe that a great many errors in thyroid treatment are constantly being made because of an inadequate knowledge of the clinical classification of thyroid disease and of the indications for operation in each group. There has been no occasion to modify our views regarding these classifications and operative in-

dications except, perhaps, to stress one or two more strongly than in the past and to present our diagnostic difficulties as they have arisen in certain of these groups.

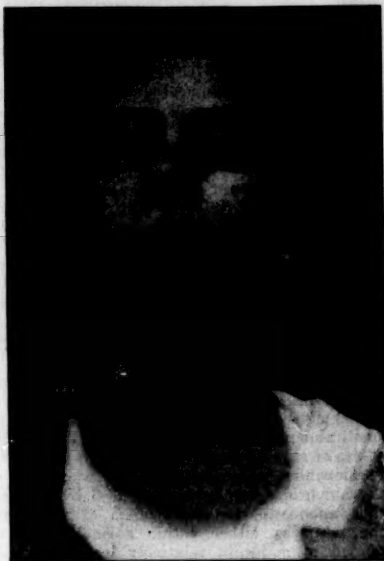
We still feel that adolescent goiter, the slight symmetrical enlargement occurring at or soon after the establishment of the menses,—an enlargement, if it be a true enlargement and not a prominence due to a thin neck, for the most part confined to the isthmus and occurring in long, thin-necked girls,—requires no treatment. We have seen none of these cases become toxic, nor have we seen any symptoms in connection with this enlargement which could be logically attributed to the thyroid. This is a different type of goiter from the colloid adolescent goiter seen in goiter belts and responding to the sodium iodide prophylaxis of Kimball and Marine.

We have many times seen tachycardia associated with this pubescent enlargement without other signs of thyroïdism, and have had no small amount of difficulty in deciding whether it was of thyroid or of non-thyroid origin. Our opinion that these tachycardias were not of thyroid origin has been influenced by the fact that upon repeated metabolism examinations, the rate was either within normal limits or tended to maintain relatively lower increases (rarely above +25). We have also obtained considerable aid in this group of cases from the cardiologist associated with the clinic. Furthermore, we become more and more convinced each year that tachycardias of thyroid origin do not exist without other signs indicative of the disease, such as staring, loss of weight, myaesthesia, nervousness, or tremor. From our experience with these conditions, which is now of considerable extent, our conclusion is that a very distinct tendency exists to assume that when tachycardia and thyroid enlargement (no matter how slight) are associated, they can be accepted as being related. Hence we believe that when a tachycardia is present without other of the confirmatory clinical signs spoken of above, though there is a moderate goiter and even a moderately increased basal metabolism rate, one should be extremely cautious in attributing the tachycardia to hyperthyroidism.

We have seen a great many cases of goiter without hyperthyroidism. We have seen a great many cases of hyperthyroidism with little or no goiter. We have also seen a great many cases with increases in basal metabolism even accompanied by tachycardia, in which no hyperthyroidism was present. On the other hand, we have yet to see a case of hyperthyroidism (unless examined in bed during or after a long rest) in which tachycardia and increase in metabolism rate were not present.

Colloid goiters we continue to operate upon, when they are unsightly, when they are or

*Read before the Boston Surgical Society, December 5, 1921.



I.—ADOLESCENT GOITER.

Note the slightly prominent isthmus and faintly visible thyroid outline. This is the characteristic appearance of adolescent goiter. As a rule, they seek advice only



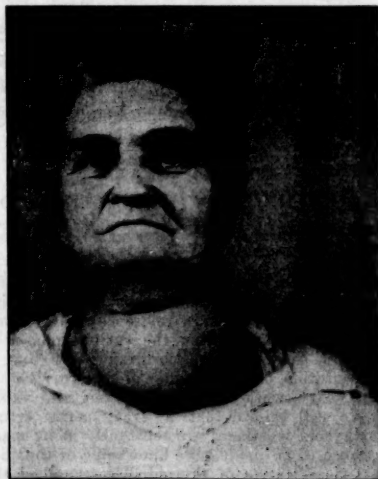
II.—ADOLESCENT GOITER.

for the prominence of the thyroid.

threaten to be intrathoracic in location—and a great many do—and when they have been associated with hyperthyroidism.

In cysts and adenomata our operative indications have remained the same: in cysts, when they are unsightly, when they are or threaten to be intrathoracic in location, when they are producing pressure; in adenomata, when they are causing secondary hyperthyroidism, when there is danger of malignant degeneration. This last indication means, in our opinion, that all adenomata in patients over forty should be removed.

Regarding malignancy and intrathoracic location of adenomata, the sole change in our views is that we have become more impressed with the need of removal of these tumors, particularly in patients approaching the age in which malignancy is more apt to occur, since we have now seen several women succumb as the result of malignant degeneration of these tumors, having thus lost their lives from assuming that the tumors would always remain benign. This point should be particularly stressed, we believe, as there are no signs by which one may be led even to suspect the possible onset of malignancy. The variations are entirely those which indicate not the onset but the presence of malignancy, when, in our ex-



III.—A LARGE ADENOMA.

This is the type in which secondary hyperthyroidism may occur, or malignant degeneration appear. It is the type which should be removed for unsightliness if nothing else. The mortality in this type is practically zero.

perience, recurrence following removal is almost certain.

We have always been struck (and the more intensely with the increasing number of cases seen) by the number of cases of complete or incomplete intrathoracic or post-tracheal goiter which have come into our hands, without being previously recognized.

In our estimation, this lesion should be looked for by percussion of the upper chest for dullness and by x-ray for deviation of the trachea in all cases of goiter of any size, since its presence when the mass has become deeply intrathoracic undoubtedly increases the mortality of the operation.

Malignancy of the thyroid continues to be an extremely depressing phase of thyroid disease. The only light we are able to see in connection with this almost hopeless group of cases is in the removal, while still in the precancerous stages, of the adenomatous goiters which are present in patients at or approaching the cancer age.

We still believe that complete removal of the entire thyroid for undoubted and extensive malignancy is not justifiable. Our experience has been similar to that in other clinics, in that we have seen malignant disease appear only in those thyroids which have been goiterous for some time.

With the exception of the x-ray clinic at the City Hospital, where x-ray treatment is being carried out, we have continued to submit all



IV (a).—INTRATHORACIC GOITER.

(a) Note the absence of any visible goiter in this man's neck, yet in the two following illustrations it may be seen to be of considerable size.



IV (b).—INTRATHORACIC GOITER.

(b) Note the deviation and narrowing of the trachea, together with the intrathoracic mass. This is an X-ray of the patient shown in (a).



IV (c).—INTRATHORACIC GOITER.

(c) A photograph of the intrathoracic goiter after removal.

cases of hyperthyroidism of any marked degree of toxicity to surgery, the eventual aim of which was the removal of a large proportion—four-fifths or more—of the entire gland. We have been led to pursue this course, first, because the mortality had always been within reasonable limits, 2.36% in the entire series, 1.17% in this year's series; and, second, because we feel that in our hands it has proved the measure which most certainly, most completely, most permanently, and most quickly produces relief in this group of cases. We know that certain cases of hyperthyroidism present remissions which are permanent in character, but we believe that all that may be accomplished by medical treatment consists of prolonged rest, first, with the purpose of pro-

teeting the patient from such injurious effects of loss of metabolism balance as are more obvious and more apt to occur in patients who are up and about; and second, with the hope that a period of remission will occur while at rest and prolong itself into a permanent remission.

Against this course are the relatively small number of cases obtaining a permanent remission, the fact that many become poorer operative risks, the small but certain number of deaths that may be attributed to this delay, and the undesirable consequences of prolonging the period during which the organism suffers the effects of the intoxication.

Regarding x-ray treatment, we feel that any measure assuming the attitude of a rival to surgery, since the latter has been generally accepted as the most satisfactory method of treatment in hyperthyroidism, should be readily capable of demonstration of its value. We feel, further, for the purposes of personal conviction and with no reflection on the clinics where x-ray is deemed a satisfactory measure, that its value should be demonstrable in a clinic under our management where the selection of cases is ours and where the interpretation as to cure or relief is also ours.

For this purpose, about eighteen months ago we established at the Boston City Hospital a thyroid clinic, where cases of hyperthyroidism are treated only by means of x-ray. In this clinic we have yet to see a case which even approaches the completeness of the relief accomplished by surgery. To be sure, our cases have been limited in number. A great many cases have been sent for treatment which were not cases of hyperthyroidism—and precaution has been taken to eliminate every case which did not belong unquestionably under the head of hyperthyroidism. A sufficient number have been treated, however, so that at least a few striking results have been obtained. In fairness to x-ray, it should be said that a larger series of cases should be treated before a decision as to the result of this study is reached; further, that we as clinicians, not as trained roentgenologists, have no check upon the dosage being used. However, in this direction we have every confidence of the accuracy of dosage, as the treatment is conducted by a roentgenologist trained in x-ray dosage. In addition, it is to be noted that we have submitted to the roentgenologist a few cases of incomplete cures following surgical removal, particularly where too little had been removed and hypertrophy of the small remaining segment had occurred, and in none of these cases has relief been accomplished by x-ray, while very prompt relief has resulted from the removal of a considerable portion of the remaining segment.

For these reasons, then, taken as a whole, it continues to be our conviction that surgery with its proved efficacy should be the accepted

method of treatment in any thyroid clinic dealing with thyroid cases in large numbers, and that x-ray treatment should be reserved largely for an experimental clinic such as that which we are maintaining at the City Hospital.

We have also operated upon a number of cases which have received many x-ray treatments, and we cannot see that they greatly increase the difficulty of the operation.

We have now made over one thousand metabolism tests on over five hundred patients, each operated case having a metabolism test previous to each operative procedure and, if possible, one every two weeks between operative procedures if the poles have been ligated; while, furthermore, all patients showing increase in rate before operation have had their metabolism estimated before leaving the hospital. After leaving the hospital, all toxic cases have returned in two months for another test and in six months for still another one, in order that a control may be maintained on them. While all of the material accumulated as the result of this work has as yet not been completely grouped and studied, there are certain facts which have impressed us as being probably acceptable. The first and most important one, in our opinion, is that hyperthyroidism has not occurred in this group without an increase in basal metabolism rate, so that we feel strongly that operations undertaken upon patients with normal metabolisms will yield consistently poor results, since in most of the cases the symptoms will not have been of thyroid origin; second, that there are many border-line cases of neuroses closely simulating but not actually presenting hyperthyroidism, particularly those cases having associated tachycardias.

In this group repeated metabolism estimations should be made. In a majority of these cases the metabolism estimations will be found to be within or approximating normal limits, and in the remainder, even though the metabolism be increased (it will rarely run above +25 in cases of this type), decision in favor of hyperthyroidism should not be made unless very characteristic clinical signs are present as confirmatory evidence. We are certain, from experience based upon constant reference of this condition to us, that there are today literally hundreds of cases of neuroses under treatment for hyperthyroidism, many of whom are doubtless being operated upon.

As the result of the study of this material, we are convinced that basal metabolism tests, properly conducted, represent approximately the degree of toxicity of the disease. We cannot subscribe to any statement that it accurately represents toxicity: first, because as yet the method and process of intoxication is not determined; and second, because the only two methods of gauging toxicity at present are the effects of the condition, on the one hand, upon

the metabolism, and on the other, upon the patient's organism, and, unfortunately, the two sometimes do not check accurately. For now and then we see patients who are clinically quite toxic, yet have but moderately increased metabolism rates; likewise, the reverse has also been true occasionally.

Following ligation of poles, it has been the rule to see a drop in pulse rate, a gain in weight, and a fall in metabolism rate. In a not inconsiderable number of cases, we have seen a drop in pulse rate, a gain in weight, a general clinical improvement, but a rise in

An investigation of the pre- and post-operative metabolism rate in the last one hundred thyroidectomized cases of primary hyperthyroidism, the last test being made within an average of ten days after the partial thyroidectomy, showed an average drop of 66 per cent. Many cases, however, do not completely reach normal until a few weeks after leaving the hospital, and it has been our experience that in those cases persisting with moderate increases in metabolism rate, moderate symptoms of hyperthyroidism still persist, because sufficient thyroid tissue has not been removed,

BASAL METABOLIC RATE

HYPERTHYROIDISM

Mrs. Annie G.		Age-32 yrs.
	Bas. Met. Rate	+72
March 21, 1921	Pulse Rate	126-148
	Body Weight	103.4 lbs.
March 31, 1921	Double superior pole ligation	
	Bas. Met. Rate	+70
March 30, 1921	Pulse Rate	118-126
	Body Weight	96.75 lbs.
	Bas. Met. Rate	+61
April 12, 1921	Pulse Rate	104-112
	Body Weight	105.4 lbs.
	Bas. Met. Rate	+57
April 26, 1921	Pulse Rate	78-90
	Body Weight	113 lbs.
	Bas. Met. Rate	+52
May 11, 1921	Pulse Rate	110-120
	Body Weight	115 lbs.
May 12, 1921	Right inferior pole ligation	
May 19, 1921	Left inferior pole ligation	
	Bas. Met. Rate	+49
May 24, 1921	Pulse Rate	94-109
	Body Weight	109.1 lbs.
	Bas. Met. Rate	+59
June 6, 1921	Pulse Rate	80-108
	Body Weight	118.75 lbs.
	Bas. Met. Rate	+51
June 20, 1921	Pulse Rate	108-112
	Body Weight	119 lbs.
	Bas. Met. Rate	+46
July 19, 1921	Pulse Rate	100-108
	Body Weight	122.5 lbs.
July 20, 1921	Partial Thyroidectomy	
	Bas. Met. Rate	+17
July 27, 1921	Pulse Rate	76-94
	Body Weight	113.75 lbs.

V.

A typical metabolism chart carried through the course of the surgical treatment. Note the progressive drop in metabolism with the advancement of the surgical procedure. Note also the similar drop in pulse rate and gain in weight.

metabolism rate. We were much disturbed by this at first, but where the clinical improvement has been obvious, the cases have endured well the final procedure of partial thyroidectomy. We are, however, as yet at a loss to explain this apparent inconsistency to our satisfaction.

Following partial thyroidectomy, the drop in metabolism has been consistent and certain.

BASAL METABOLIC RATE

HYPERTHYROIDISM

Mrs. Della W.		Age-29 yrs.
	Bas. Met. Rate	+66
June 26, 1921.	Pulse Rate	148-164
	Body Weight	102.75 lbs.
June 29, 1921.	Right sup. pole ligation.	
July 6, 1921	Left sup. pole ligation.	
	Bas. Met. Rate	+47
July 13, 1921	Pulse Rate	114-120
	Body Weight	100 lbs.
	Bas. Met. Rate	+55
July 27, 1921	Pulse Rate	120-126
	Body Weight	107 lbs.
	Bas. Met. Rate	+57
Aug. 11, 1921	Pulse Rate	118-128
	Body Weight	115 lbs.
	Bas. Met. Rate	+76
Aug. 28, 1921	Pulse Rate	98-110
	Body Weight	117.25 lbs.
Aug. 29, 1921	Double inf. pole ligation.	
	Bas. Met. Rate	+50
Sept. 4, 1921	Pulse Rate	118-126
	Body Weight	111.5 lbs.
	Bas. Met. Rate	+37
Sept. 19, 1921	Pulse Rate	94-110
	Body Weight	126.75 lbs.
	Bas. Met. Rate	+68
Oct. 3, 1921	Pulse Rate	102-114
	Body Weight	132.25 lbs.
	Bas. Met. Rate	+75
Oct. 23, 1921	Pulse Rate	110-120
	Body Weight	134.25 lbs.
Oct. 24, 1921	Partial Thyroidectomy.	
	Bas. Met. Rate	+27
Nov. 2, 1921.	Pulse Rate	92-100
	Body Weight	126 lbs.

VI.

An atypical metabolism chart carried through the course of the surgical treatment. Note, as compared with the previous typical chart, the progressive rise in metabolism rate, although the clinical improvement as represented by the gain in weight and drop in pulse rate is even more evident than in the preceding typical chart.

and that a further drop can be accomplished by further removal.

Finally, as the result of our experience with the metabolism test in this disease, we are sure that it is a very grave error to consider thyroid disease in terms of increased metabolism, and that such a test can be of as much harm

as good unless carefully weighed and correlated with the history and clinical signs presented by the individual.

In the past year and a half we have had Dr. Burton Hamilton associated with us in the clinic in an attempt to obtain some accurate knowledge of thyroid hearts; at our request, he has submitted the following short résumé as the result of his observations on the cases in our clinic for those eighteen months.

Hearts, in hyperthyroidism, fall into two classes, with but very few intermediate cases. The larger class, on clinical examination, shows no signs of heart damage. Patients of all degree of toxicity (up to death), and of short and long duration of their hyperthyroidism, are in this class. Nor has heart failure occurred here. In fact, if these patients are cured of hyperthyroidism, they are left with sound hearts, so far as can be told.

The smaller class shows definite heart damage, with occurrences of heart failure. In these cases, auricular fibrillation, either established or occurring in paroxysmal attacks, is the rule. This condition can always be improved by digitalization. In our clinic, more than half of such cases in the last eighteen months have been cured of auricular fibrillation after operation and digitalization. On the other hand, we see no reason for digitalization of hyperthyroidism cases that do not have auricular fibrillation.

The immediate statistics of the clinic for the past year are submitted. From January 1, 1921, to January 1, 1922, 342 thyroid operations have been done. Ligations of one or both superior poles have been done 78 times, with one death. Ligations of one or both inferior thyroid arteries behind the internal jugular and on the inner border of the scalenus anticus, has been done 12 times, with no deaths. Injection of boiling water has been made 20 times with no deaths, and 232 operations directly upon the thyroid have been done. Twenty-four have been hemithyroidectomies on patients deemed too toxic to endure the complete operation, in each case the remaining lobe being removed as soon as the patient's condition permitted.

There were two cases of tetany of short duration this year, and, strangely, none in the cases previous to this year—considerably over five hundred in number.

There were five cases of malignancy this year, all of which have died since leaving the hospital, with the exception of one recent case, in which a specimen was removed for pathological report. This measure we consider wise unless clinically there is no doubt whatever as to the malignancy, as we have had three cases of the so-called woody thyroids in which the consistency of the thyroid has been very similar to that of malignant thyroids, but has

not proved to be malignant on microscopic examination.

We have operated upon one lingual thyroid and, in a baby five months old, one large colloid goiter causing pressure.

The total number of deaths has been four—one from thyroidism following ligation of one pole; one from probable cardiac failure in a patient with a past history of cardiac decompensation and with several attacks of auricular fibrillation, upon whom a hemithyroidectomy was done, both poles have been previously ligated and a hemithyroidectomy having been done by another surgeon some years previously; one from pneumonia following the removal of a large intrathoracic and post-tracheal goiter, and one of unknown cause in a woman of fifty, strong and well, with non-toxic adenomata, operated at the Boston City Hospital, in the students' clinic, under ether.

In conclusion, while we are fairly well satisfied with this year's mortality rate, 1.17 per cent., we feel that it should be reduced still further, having in mind, however, that mortality in a clinic such as ours, where patients with very serious thyroid lesions are being constantly presented to us, cannot be eliminated without refusing patients of this group.

PRELIMINARY REPORT OF THE MENTAL CLINIC OF THE WORCESTER STATE HOSPITAL.

By GEORGE F. CALDWELL, M.D., WORCESTER, MASS.,
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THE Out-Patient Department of the Worcester State Hospital was begun at the Summer Street Department in June, 1921. The purpose of the clinic was to offer to the people of this section of the State all the advantages of a psychopathic hospital.

At first the idea was somewhat new to the public, but the opportunities for help offered by the clinic were soon recognized. Before long not only were psychiatric cases, but also neurological syphilological, and cases of children who were retarded in school or who were conduct problems, were being presented for diagnosis, treatment and advice. Later the task of examination of school children (3 years or more retarded) in fifty-eight towns, (designated by the Mental Commission) came to be placed under this department.

The clinic has available physicians, social workers, a psychologist and nurses, all trained along this kind of work.

The routine examination consists of searching inquiry along lines of physical examination, family history, personal and developmental history, school progress and tests, practical knowledge, economic efficiency, social history and reactions, moral reactions, mental and

psychological tests; the routine taking of blood for Wassermann test, together with laboratory examinations as indicated.

If needed, such facilities as x-ray, electrical apparatus, fluoroscope, etc., are available for detailed study at the hospital. From these data a composite and complete picture is made from which to draw a conclusive diagnosis. The diagnosis being made, advice on disposition of the case is given, and patients who can receive treatment at the hospital are given attention free of charge.

Our facilities for treatment at the Worcester State Hospital are: a complete hydrotherapeutic department, electric baths, violet ray, baking apparatus, occupational therapeutic department, together with provisions for modern work along mental, psychoanalytic and re-educational lines. Administration of arsphenamin, neo-arsphenamin for syphilis, and treat-

ment along general medical lines of any condition is carried out.

In disposition of cases not psychotic we act in association with social service, relatives of patients, or out-patient departments of other hospitals, toward securing, where needed, surgical treatment, proper or corrective supervision, readjustment of patients, or whatever other disposition is deemed best.

To date there have been ninety cases seen and completed by the department; twenty-seven cases are in the process of completion. This makes a total of one hundred sixteen new contacts that have been made since the opening of the clinic, some of which are being continued, as the patients are reporting bi-weekly for treatments, such as electrical, arsphenamin, etc.

The type of cases handled by the Out-Patient Department are:

I.—PSYCHOTIC.

Diagnosis	No.	Recommendations	Disposition
Dem. Praecox	1	Hospitalization.	Committed to Worc. State Hospital.
Senile Dementia	1	Sanatorium treatment.	Relatives carrying out advice.
Manic Depressive	2	Hospitalization.	Committed to Worc. State Hospital.
Psychosis with cerebral embolus.		Hospitalization.	Temporary care at Adams Nervine by relatives; later committed to W. S. H. Condition unimproved.
Neurosis	3	Electro and Hydrotherapeutic treatments, with Psychoanalysis.	Treatment carried on at W. S. H. Out-Patient Dept. Improvement seen.
Neurasthenia	2	1. Electro and Hydrotherapeutic treatment. 2. Readmission to hospital.	1. Carried on at W. S. H. Out-Patient Dept. 2. In hosp. Condition improved.

II.—FEEBLEMINDED.

Diagnosis	No.	Recommendations	Disposition
Simple	9	1. Institutional care. 5. Special Class and Man. Train. 2. Corrective supervision at home. 3. Institutional care.	Admission pending. In hands of relatives. Being carried out. Advice not followed.
Delinquent	6	6. Institutional care.	4. Admitted to feeble-minded school.
With Syphilis	1	Institutional care and Syphilitic treatment.	2. Admission pending. Patient disappeared.
With Epilepsy	3	Institutional care.	1. Advice not followed. 2. Patient to report in six months. 3. Admission pending.

III.—NEUROLOGICAL.

Diagnosis	No.	Recommendations	Disposition
Cerebral Irritation associated with Tuberculosis	1	Tubercular hygiene schedule planned for patient and family, in care of Board of Health Nurse.	Plans being carried out.
4. Post cerebral hemorrhage paralysis	1	Schedule planned for patient. Moderate exercises, modified diet, etc.	Plans being carried out.

IV.—SYPHILITIC.

Diagnosis	No.	Recommendations	Disposition
Cerebral Spinal Syphilis	4	Intensive bi-weekly treatments.	3. Treatment carried out at W. S. H., O.P.D.
Secondary Syphilis	1	Intensive bi-weekly treatments.	1. Patient disappeared. Treatment carried out at W. S. H., O.P.D.
Tabo-Paresis	2	Intensive treatment and hospital care. O.P.D. to report.	Advice not followed.

V.—WITHOUT PSYCHOSES.

<i>Diagnosis</i>	<i>No.</i>	<i>Recommendations</i>	<i>Disposal</i>
Chorea	1	Referred to Nose and Throat Specialist.	Given treatment at W. S. H., O.P.D. Condition improved.
Tonsils and Adenoids plus speech defect	1	Removal of tonsils and adenoids.	Tonsillectomy arranged for at Memorial Hospital.
Hyperthyroidism (Adolescent)	1	Quiet mode of living, rest, fresh air, good food, as scheduled.	Plans being carried out. Condition improved.
Maladjusted— (a) School	1	Treatment for ears.	Advice given to teacher and School Nurse as to their attitudes toward patient. Condition improved.
(b) Home	3	Remove patients from present homes. Place in good care.	Further placement in hands of Children's Friend Society.
(c) Social	1	Remove patient from own home; attention to recreation.	Arrangements pending.
Conduct Problem	1	Replacement.	Patient in hands of Children's Friend Society.
Routine O.P.D. Examination ..	11	Supervision; more thorough study and investigation.	Patient in care of Girls' Welfare Society.

VI.—UNDIAGNOSED.

<i>Diagnosis</i>	<i>No.</i>	<i>Recommendations</i>	<i>Disposal</i>
Routine O.P.D. Examination ..	1	Further investigation; patient to report to clinic again in 6 months.	Patient being cared for by Girls' Welfare Society.
Routine O.P.D. Examination ..	5	Patients to report in six months.	None made.

VII.—PATIENTS ON VISIT FROM

<i>Diagnosis</i>	<i>No.</i>	<i>Recommendations</i>	<i>Disposal</i>
W. S. H. reporting regularly every 6 mos. at O.P.D.	3	Advice given suitable in each case.	None made.

SCHOOL OUT-PATIENT CLINIC—TYPE OF CASES SEEN.

FEEBLEMINDED.

<i>Diagnosis</i>	<i>No.</i>	<i>Recommendations</i>	<i>Disposal</i>
(a) Simple F.M.	16	Special classes—training along manual lines, correction of pathological conditions.	Arrangements pending for carrying out recommendations.
(b) Feeble-minded requiring institutional care	1	Institutional care.	
(c) Feeble-minded potential psychotics	2	Special classes—training along manual lines—to report to W. S. H., O.P.D., every 6 months.	Arrangements pending for carrying out recommendations.
Diagnosis deferred	3	To report in 6 months for further study.	
Cases in partial state of completion	27	Pending.	

The number and variety of the above cases indicate the value of some place to which the public may bring cases of this type for diagnosis, advice and treatment. In most instances where final disposition was arrived at, there has been decided improvement seen.

From the more modern psychiatric standpoint the subject of psychoanalysis in cases of neurosis is perhaps a most interesting subject. In our cases the results have been fairly good and one case stands out as having recovered completely after a psychoanalytic examination series.

There can be but little doubt that the conflict and antagonism between the conscious and the disturbed subconscious mind is responsible many times for symptoms manifested by physical symptoms as digestive upsets, pain, insomnia, etc. Once having pointed out to

the patient the unnatural or unusual facts not accepted or thrust out of the conscious mind, but by which subconscious state has been deeply impressed, it is surprising to see many a troublesome case showing physical symptoms clear up and become well. The field certainly is one along which much good work can be accomplished, and many of the vague cases could be cured which have been despair of by so many of the outside physicians.

One of the biggest problems seen in connection with our work is the proper hygiene and handling of the situation of young adult delinquents. Repeatedly, cases presented at the clinic with a long court record for petty larceny; for immorality, prostitution, etc., or for being unmanageable and wayward. The frequency of such cases is fairly high, and examination demonstrates in the majority of cases

that the individual is feeble-minded and unable to meet or maintain the standards set by convention.

This is further augmented by the fact that being untrained in any line of work the individual oftentimes must resort to self preservation, i. e., stealing, etc., and fall prey to every demand and influence of those about him. Such cases heretofore, on falling into difficulty, have for the most part been sentenced to prisons, reformatories, etc. The underlying cause is not sought for and only means for restraint considered.

The end-result is usually an individual who has lost love for mankind and who, being unable to secure employment along average lines, must accept the more distasteful tasks and least remunerative work. He is not accepted by his co-workers, and is made to feel his inferiority by their constant rebuffs. Being excluded from the better influences of life and not even being shown the proper bounds of convention, he at last repudiates many of the so-called humane standards, and little by little builds those more to his own liking. Result: conflict with authorities and intensification of his misunderstanding of mankind by their application of so-called "correction" to a mind whose condition or mental capacity they have never thought to question. What result other than the repeated violation of standards can be expected when one is not shown the purpose or given asset which will enable him to live up to normal standards?

At the present time, however, the local courts and welfare associations are becoming very keen in this respect, and now are presenting the younger of their cases for examination. Where radical disposition is required, the average cases are sent to schools for feeble-minded in order that the patient's viewpoint of life and mankind may be corrected. He is taught (if capable) a trade which will serve him when turned into the community again, and as a result we have after a time a person able to secure his own living by a respectable trade and who is able to care for himself. Other cases of mild nature merely require kindly, constructive home supervision and practical training.

The vital point, however, is not to wait till the feeble-minded child has reached adult stage and is already a community problem, criminal, and expense to the district in which he lives. These cases should be seen and cared for from the early school years. Their training should be such as to (a) establish confidence in mankind; (b) to be taught as much as they can absorb mentally and (c), most of all, to be manually trained as a shield against drifting aimlessly and helplessly against the present-day stress of life when they are ready to leave

school. This then leads us to the present-day work seen in our school clinic work.

We find that here, for almost the first time, the psychiatrist has an *entrée* into the community where he can study the earliest beginnings of mental twists and peculiarities of the child retarded in school (for any reason whatsoever), who has begun on the long road that leads to the maladaptations to life and living, whom one may eventually see at later stages in the State hospitals. For this reason the examination provided for by the State law gives the psychiatrist, especially the mental hygienist, his long-sought opportunity for doing preventive work.

For the child whose retardation is due to a definite mental under-development, the aim of our routine examination is to accomplish for him the avoidance of having to struggle through the regular grades—the trial of his teacher, the butt of his classmates' jokes—until that age at which he is allowed to leave school and, untrained, attempt his own support. Instead, we can prepare, not only the way for him to learn as much as he is capable of mentally, but also to get a trade training, and later, when he is ready to begin life for himself, he is just a little ahead, from a practical standpoint, of most of his normal fellow beings; and he certainly needs this head start, as his efficiency can never really rival theirs.

The true field of the mental hygienist, however, deals with still another all-important type of mental difficulty which the psychiatrist sees in early stages in some of the school children—the potentially psychotic, the child whose school work shows such erratic tendencies that each failure is laid to "stubbornness," lack of attention or interest, and to just plain "cussedness"—terms apt to be applied. This is apt to be the child in whose mind mental twists are already appearing. Here the treatment cannot be so definite and tangible as in the other cases, but proper supervision, good advice to parents and relatives regarding managing of abnormal or unusual tendencies; proper attention to general hygiene of good living; help toward the child's better adjustment; periodic presentation of the child for study at an out-patient department; and teaching the child only as much as he can comfortably learn,—all may go toward the prevention of a later complete breakdown requiring hospital care.

The desired "opening wedge" into the community seems to have been found in this examination of backward school children, and just in proportion as this work is done thoughtfully, thoroughly, and to the best of the individual psychiatrist's ability, will it be truly preventive mental medicine.

The striking relation also of general physical inferiority to mental backwardness is

brought out by a survey of cases examined. Many children are retarded in school by virtue of undetected bad eyesight and faulty hearing; and all too common is the case of the child whose backwardness gradually and satisfactorily disappear after a tonsillectomy or correction of some other pathological condition. These all have tremendous possibilities for a better adjustment and, discovered in time, many cases of misfits are prevented.

The high percentage (14%) of cardiac conditions noted was fairly striking. Among the lesions found were those of mitral regurgitation, mitral stenosis, and several cases of cardiac arrhythmia of nervous origin. There can be but little question but that the average frequency with which pathological heart conditions are found is decidedly raised by the great number of cases found among these feeble-minded children. This is interesting additional evidence of the fairly constant physical inferiority associated with these children.

Malnutrition also shows prominently as characteristic of these children. In our series the percentage ran as high as twenty-two. The degree of malnutrition ranged from moderate to extreme. Indeed, so constant was this condition found, that we are coming to believe more and more that fatigue posture, the pinched, matured face of the ill-nourished child, is a fairly constant guide to the retarded scholar. It is apparent also in most of these cases, that absorption of toxins from intestines (in most cases the patient complained of habitual constipation) is an added factor, and adds greatly to the difficulty under which children of this class labor. Pathological tonsils and adenoids, and teeth needing dental care, were found in twenty-five per cent. of cases.

Where the above conditions are seen so frequently in retarded children, it would seem high time that the general profession and public at large awoke to the fact that the school child is not a mechanical apparatus, and requires a little better care than is given to the average domestic animal. The time has come when the mental hygienist must teach the public that psychiatry along the above lines is in many cases no longer a vague, intangible affair, but has a practical and definite foundation. We are at a stage where abnormal or retarded children, and adults, first, must be brought to normal physical standards; must receive the benefits of nutritional clinics if needed and must have corrected all pathological conditions. The ideal condition which eventually must come is the operation of a mental clinic, hand in hand with the other constructive clinics which, if not already established, should be, in every town for care of our school children.

Concerning the potential psychotic children, we can for the first time keep them under ob-

servance, correct, where possible, potential mental conditions before a stage is reached where hospital care is needed; or where active psychosis exists, make provisions for removal of the child from contacts where he may eventually do some distressing act before being considered, all too late, as fit for commitment. Such are some of the ends which it is the aim of this clinic to accomplish.

The foregoing tables have given some idea of the scope of cases presented at the Hospital and School Out-Patient Clinics. Both fields are rich in possibilities; one for doing treatment on actively defined psychotic states, the other for doing preventive work. The latter field offers without any doubt the real key to the modern solution and logical handling and consideration of mental diseases.

Judging from the demands made for the past six months on the clinic, the outlook for the future is reassuring. It labors somewhat under the handicap of having to transform in the minds of the public the idea of the "asylum" into a new and as yet not too well understood out-patient department of a hospital for mental disease. The seed sown in the past six months seems to have lodged in fertile soil for such work, however, and with progress in the future, keeping pace with the demands of the past few months, the clinic hopes to thrive, increase and aid in the solution of the problems associated with psychiatry.

SPINAL AND CISTERN PUNCTURE, WITH LAVAGE, FOLLOWING APOPLECTIFORM ATTACK IN PARESIS.

BY A. H. RUGGLES, M.D., PROVIDENCE, R. I.

AND

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IN the course of general paresis, seizures, often with evidence of cerebral hemorrhage, are seen. Certain of these seizures are spoken of as apoplectiform attacks and usually pass off in from a few hours to a few days. Oppenheim says, "We have no certain knowledge as to the causes of these attacks. It has been assumed that circulatory disturbances, small hemorrhages, local edema, or even a local aggravation of the underlying pathological process (encephalitis) may give rise to the symptoms."

The following case seems to indicate rather definitely the presence of a severe intracranial hemorrhage as a cause of such an apoplectiform attack:

CASE. J. R. W. Admitted April 6, 1920. Age 39. Widower. F. H.—Nothing remarkable. P. H.—At 18 he contracted syphilis. Ten years ago was admitted to Johns Hopkins Hospital with a gastrointestinal condition. For

the past ten years has been in very poor health. Four years ago is said to have had four intraspinal and several intravenous injections. P. E.—Right pupil large and irregular; left pupil smaller; neither react to light nor accommodation. Slight tremor of the tongue. Heart and lungs negative. Abdomen negative. Knee-jerks—Right increased, left normal. No other abnormal reflexes. Cranial nerves negative. Urine examination negative. Blood Wassermann negative with acetone, 4+ with cholesterin. Spinal and cistern fluids 4+ with acetone and cholesterin. M. E.—Patient has considerable emotional instability, blunting of moral sense and defect of both remote and recent memory. He knows that he has had syphilis, but does not appreciate that he has a psychosis. Has markedly defective judgment. No hallucinations. Delusions not prominent, but those which arise are expansive in type. Is irritable and fabricates freely. Diagnosis—General paresis.

April 20, 1920—Cistern pressure was estimated at 140 mm. Between April 20 and September 2, 1920, patient had sixteen cistern injections of serum prepared by Swift-Ellis method. On September 2, blood Wassermann and cistern fluid were both negative with acetone and cholesterin.

Treatment is discontinued, as both blood and spinal fluid have become negative. In spite of this fact, there is a rather marked mental deterioration which treatment can hardly be expected to modify.

December 8, 1920—Patient is almost always in a good-natured, very self-satisfied state of mind—greets people with considerable familiarity and has a very fine opinion, apparently, as to his ability and as to the quality of work which he is doing in the workshop. In reality, his work is poor and it is hard to keep him on any one job.

October 1, 1921—During the past 10 months there has been no essential change in the patient's condition. No further treatment has been given. The patient continues to show a moderate degree of parietic mental deterioration. He is unreliable, irritable at times, occasionally expansive, and shows poor recent memory.

November 8, 1921—Today patient complained of being dizzy, and fell to the floor. He was placed in bed, and on examination, it was found that his head was deviated to the right, and eyes showed conjugate deviation to the right side. Tongue, when protruded, was protruded toward the right. Extremities on the right side were found to be moderately spastic when attempt was made to move them. Patient was not unconscious; would answer questions after they were repeated several times, and was able to move all of his extremities. Appar-

ently could not move his head. Lumbar puncture was done at two different levels, and from both punctures bloody cerebrospinal fluid was obtained which coagulated rapidly. His right patella reflex gave a more prompt response than the left, but was probably not increased. No Babinski or ankle clonus present. Abdominal reflexes were present and active on the right side; absent on the left. Cremasterics absent. Right triceps jerk present and active; left absent.

November 10, 1921—Patient had a cistern puncture done upon him this morning and about 40 cc. of almost pure blood was obtained. He spent a very restless night, but this morning was much quieter. He shows no symptoms of pressure; has lost the contracture of the right side of the head, the deviation of the eyes and the hypertonicity of his right side.

November 12—Cistern puncture was done on patient this morning and a few drops of blood-tinged fluid was obtained under very low pressure. Lumbar puncture was done at the same time and a dry tap was obtained. About 20 cc. of saline was injected through the cistern needle and about 40 through the lumbar puncture needle. While injecting saline through the lumbar puncture needle, the pressure in the cistern increased and the flow also. About 15 cc. more was allowed to run out, and the needles were removed. Patient's condition is practically unchanged.

November 15—Cistern puncture was done on patient this morning. A few drops of slightly blood-tinged fluid was obtained under very low pressure. About 30 cc. of saline was injected through the needle and about 10 cc. allowed to run out. The returning fluid was only slightly turbid. Patient's condition remains unchanged.

November 19—Cistern puncture was done on patient this morning and a few drops of very bloody cerebrospinal fluid was obtained; 22 cc. of salt solution was introduced and the needle removed. Condition is very good at the present time; he has no evidence of spasticity and, physically, he is approximately the same as he was before this attack.

November 26—Cistern puncture was done this morning, and spinal fluid was perfectly clear and under approximately normal pressure. Condition remains unchanged.

December 16—One week after the last cistern puncture, the patient was allowed to get out of bed and walk around the ward. About one week later he returned to his work in the occupational therapy department of the hospital. Since that time, his work has been very poor and he is quite noisy and unable to concentrate very long on one job. Physically, his condition is the same as before the hemorrhage.

Blood Wassermann negative with acetone and cholesterin.

Spinal fluid Wassermann ++++ with acetone and cholesterin.

This case would suggest the value of spinal and cistern puncture as a diagnostic aid and as a possible therapeutic procedure in some cases of suspected intracranial hemorrhage.

EVALUATION OF INTELLIGENCE TESTS IN CRIMINAL CASES.

By GEORGE L. WALTON, M.D., BOSTON.

No one who practised neurology at the time when there was no standardized method of measuring the intelligence in cases of retarded development can fail to recognize the great advance made in the study of such cases by the work of Binet and Simon. These authors, in 1904, in response to an educational requirement in Paris, formulated, by examining selected groups, standard tests by which to measure, in terms of mental age, the development of intelligence in children. This epochal work, in spite of early criticism, quickly proved its worth, and the original Binet-Simon Scale, with several revisions, still holds its own.¹

The Scale was intended for a measure of intelligence. Terman states that it is neither a test of insanity, nor of the emotions or the will, except as they are shown in testing the intelligence. It certainly was not designed as an aid to the courts in determining the responsibility or irresponsibility of the criminal adult. Even in the field for which it was designed, the test does not stand alone, as Terman adds, but will always need to be interpreted in the light of supplementary information. This supplementary information is listed in the blanks of the Massachusetts School for the Feeble Minded under the headings,—physical examination, personal and developmental history, history of school progress, examination in school work, practical knowledge and general information, economic efficiency, social history and reactions, moral reactions. Of these none is more important than economic efficiency. In the case of an adult the investigation of his ability to support himself is at least as important as the determination of his mental age as measured by the intelligence test.

Again, leaving the question of feeble-mindedness in abeyance, the establishment of a mental age of seven by the Scale no more warrants the assumption of irresponsibility than the establishment of a mental age of sixteen guarantees responsibility. This brings us to the question, What do we mean by responsibility?

In the business world the word *responsibility* means ability to meet contracts and pay bills.

With this meaning we have nothing to do in this connection. The other meaning of the word *responsible* is *accountable*, or *answerable*. In a way, every living thing is answerable for every action. The rattlesnake has to answer with his life for the injury he does, though he is not responsible in the criminal sense. He coils and springs by instinct. Presumably he does not know that it is wrong thus to injure the innocent intruder on his privacy. Not every kind of answerability, then, constitutes criminal responsibility.

For practical purposes Mercier's² definition of criminal responsibility is a fairly satisfactory one. He says that a person is responsible who is *rightly punishable*. In order to be rightly punishable he must will the act, intend the harm, and desire primarily his own gratification; the act must be done on inadequate provocation, and he must know and appreciate the circumstances in which the act is done.

The word *know* is so flexible a one as to require qualification. I may know that my friend mailed my letter last night because he told me this morning that he had done so. But in the eyes of the law my knowledge is only hearsay evidence. My friend is the one who really knows whether he has mailed the letter or not. Similarly, a child may know that an act is wrong because he has been told so, and yet he may fail to know it in the full sense of the word. To be fully responsible, as Mercier says, one must "know in the full sense of knowing the nature and quality and wrongness of the act." Sir Fitzjames Steven says that the idiot who cut off the head of the sleeping man for the fun of seeing him hunt for it when he woke, probably knew that it was wrong in the sense that it is wrong for the child not to learn its lesson. In a less extreme case the insane or semi-insane man may know in a sense that his act is wrong without realizing how wrong it is. This consideration brings up the question of limited responsibility.

Let us now take up the practical application of the intelligence test to the solution of these questions.

CASE 1. An uneducated Italian came to this country about eight years ago. He is now 28. He first worked, as water boy, in Maine, then on the railroad. Later he followed his father to Cambridge, alone, and went to work in a factory. He learned to tend his machine in the usual time, and proved a competent, steady and satisfactory employee. He supported himself and sent money home.

On the afternoon of the day of the murder he drank with other men in Boston. The evening he spent at a party of adults in Cambridge where he drank more. At midnight he went out with the musicians. An officer ordered them to go home, and in the ensuing altercation

he shot the officer. He then returned to the house and said "I shot a cop." He was put out of the house and was arrested on West Boston bridge. He denied having been at the party, and having shot the officer. Confronted with his companions next morning at the police station he called them liars for accusing him of the shooting, and offered an alibi for the entire evening. Later he said, "Let them go; I did it." At the trial he said that he took out the revolver to scare the officer, and did not mean to kill him.

The only other material testimony bearing on the question of feeble-mindedness, except the Binet, which gave him a mental age of nine (I. Q. 56), was the statement of his brother that he was not very intelligent, and the testimony of several witnesses that he played with children. Further questioning reduced this statement to the fact that he played with his brother's children, and that he spent the noon hour playing ball and tag, and fooling 'round with boys whose ages varied, according to different witnesses, from seven or eight up to fifteen or sixteen and over, with whom, according to some witnesses, no other young men played; according to others, other young men did play.

Was this young man feeble-minded? If he was feeble-minded, was he responsible? How much does the intelligence test help us in deciding these questions?

With regard to feeble-mindedness: Over against the rather vague testimony that he was not very intelligent, we must set the undisputed testimony that he stood so high in economic efficiency that he was able to support himself and send money home, and that he was intelligent enough to formulate a defense in the way of an alibi. Into the scale against the general statement that he played with children we must put the specific testimony that he spent that afternoon and evening with adults, and that it was in company with adults that he got into trouble. If we are to view the Binet findings in the light of supplementary evidence we cannot disregard these evidences of his economic efficiency and his normal social reactions. It was never intended that the Binet Scale should be so interpreted as to outweigh the dictates of common sense. Taking these things into consideration, we do not seem to have made out a very strong case of feeble-mindedness.

With regard to responsibility: His efforts to escape, his denial of the act, and his invention of an alibi would indicate that he knew he had done wrong and that he knew and appreciated the circumstances in which the act was done—to say nothing of the consequences it involved. He certainly drew the revolver voluntarily, on inadequate provocation, and for no one's gratification but his own. Whether he intended to

shoot the officer with it is a question of veracity, not of responsibility. The jury made no mistake, then, in regarding him as rightly punishable, or responsible. He was found guilty of murder in the second degree, and was sentenced to life imprisonment.

In the solution of these questions the intelligence test has played a minor part. Indeed, a mental age of nine, by the test, in an uneducated foreigner is not a serious matter. Yoakum and Yerkes' give the following results of the study of intelligence in the army:

"Subjects obtaining a score of ten years (120 points) or more may ordinarily be recommended for regular military training; subjects between eight and ten years (96 to 119 points) should be considered for assignment to service organization or development battalion; subjects below eight years (96 points) should be considered for discharge."

The second case offers an element likely still further to limit the usefulness of the intelligence test in criminal cases, namely, the question of coöperation on the part of the examined. There is a marked contrast between the case of the child who has no incentive for doing other than as well as he can, and that of the criminal who knows that feeble-mindedness is a factor in his defense, and whose interests are far from furthered by the display of a high degree of intelligence.

CASE II. A young man of 28, of French extraction, born in Lowell, lived in Lowell till the age of ten, then went to Canada, then returned and worked at various jobs, none of which, I believe, he kept very long, but at which he earned substantial pay. His schooling stopped at fourteen. He served overseas, then returned to Lowell, where he seems to have lived a rather idle life, spending much of his time in the pool room with other young men.

The history of the murder was, in brief, as follows:

In company with another young man he held up a shopkeeper, the other young man holding the gun while he (the accused) emptied the contents of the till into his pocket. At the door the shopkeeper seized them. The other young man got away. The accused fired at the shopkeeper through his pocket, but failed to loosen his hold. They struggled across the sidewalk into the street, where he drew out the revolver and shot the shopkeeper through the head. He then made his escape through various streets and alleys, and was apprehended in the closet of an unoccupied house, with his revolver jammed.

It would be wide of the present mark to discuss the other personal and family history. The following are the facts that bear on the question of the value of the intelligence test:

Among other responses at an examination

a month and a half before the trial he subtracted 15 from 50 and 33 from 100. He told, correctly, how much he would earn in four hours at 35 cents an hour. He counted up to twenty, and backward from twenty with one repetition.

At an examination shortly before the trial, in which the complete Binet-Simon test was used, he showed an apparent mental age of only about six and one-half years (I. Q. 40).

At a third examination, which took place shortly before the close of the trial, through which the prisoner's attitude had been that of one having no interest in the proceedings, he appeared unable to count up to five either in French or English. At this examination he called a fifty-cent piece a quarter, and said that if he gave ten cents for two 2-cent stamps he would get back one cent in change. When asked the first day of the week he answered Tuesday, then changed it to Monday. He was given the heaviest and lightest of the standard weights (15 and 3 grammes) and told to place the heavier on the right and the lighter on the left. After a pause he put one on top of the other. The order was repeated, upon which he placed the 3 gramme weight on the right and the 15 gramme on the left. In short, if his answers to the tests given at this examination were taken at their face value he would have to be classed as little better than an idiot. When given the simpler of the picture puzzles with pieces to insert he put them all in wrong. The last one, that of the dog chasing the boy, he seemed unable to do at all, so was assisted by the question "What is the boy doing?" "Running away," he answered. "What is he running away from?" He then studied over the pieces, among them the dog running in the same direction as the boy, and chose the kitten which was facing the other way and standing still.

The lack of coöperation in this case was shown by

(1) The marked contrast between his conduct up to the time of the trial and the results of the examinations made at the time of trial. It would not be credible that a man who had earned money in this country and who had served overseas, who spent his time in a pool room, and who took part in this hold-up, whether as principal or as subordinate to a stronger will, should not know a half from a quarter dollar or be able to count up to five.

(2) The rapid increase of the apparent mental defect. Whereas, at the first examination he subtracted 15 from 50, and told how much he would earn in four hours at 35 cents an hour, at the third examination, two months later, he said that if he gave ten cents for two 2-cent stamps he would get one cent in change; at the first examination he counted up to 20 and back with one repetition, at the last he

seemed unable to count up to five. Such rapid deterioration might be compatible with dementia (which was not claimed) but would be out of the question in feeble-mindedness.

(3) The regularity with which he answered questions wrong. This, while not so conclusive as (1) and (2), is very suspicious and, taken in combination with the rest of the picture, is strongly suggestive.

The verdict was guilty of murder in the second degree; the sentence, life imprisonment.

The lack of coöperation does not, in itself, prove that the prisoner had a high degree of intelligence. Indeed, there is nothing, so far as I know, to prevent a feeble-minded person from exaggerating his feeble-mindedness, either through hope of reward or fear of punishment. It does seem fair, however, to conclude that the intelligence test has been of questionable value in this case, either for the diagnosis of feeble-mindedness or for the measurement, in terms of mental age, of the degree of feeble-mindedness if such be present.

REFERENCES.

- * Complete directions for using the Stanford Revision (in the form of Terman's "Measurement of Intelligence"), as well as blanks for its use, are published by Houghton, Mifflin Company, Boston. Picture and block puzzles and standard weights are furnished by C. H. Stoelting Company, Chicago.
 * Mercier: Criminal Responsibility. Clarendon Press, Oxford, 1905.
 * Army Mental Tests: Henry Holt & Company, 1920, page 100.

Current Literature Department.

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THE ETIOLOGY OF RICKETS.

SWEET, G. B. (*British Medical Journal*, December 24, 1921) believes

1. That rickets due to a deficiency of fat-soluble A vitamin in the diet has not been proved.
2. It is primarily due to a diet actually deficient in fresh animal food, probably suitable protein, or to a disturbed digestive condition which prevents the assimilation of the same.
3. The striking metabolic changes in rickets are due secondarily to a deficiency of secretion of one or more of the endocrine organs and probably chiefly of the thymus gland.
4. Confinement in young animals, with its attendant evils of lack of sunshine, exercise, and cleanliness, are important factors in increasing the severity of the disease.

[J. B. H.]

PHYSICAL EDUCATION IN THE UNIVERSITIES OF THE UNITED STATES.

M'KENZIE, R. T. (*Edinburgh Medical Journal*, December, 1921) in a long and interesting article describes the methods of teaching physical education in the universities and colleges of this country. The details which he gives are largely concerned with what he does in his official capacity as Professor of Physical Education at the University of Pennsylvania. The article cannot well be reviewed, but is well worth reading as a summary of what can be done on this subject in one American university at least.

[J. B. H.]

DECAPSULATION OF THE KIDNEYS IN BRIGHT'S DISEASE.

WELLS, T. H. S. (*British Medical Journal*, December 3, 1921) believes that the operation of decapsulation of the kidneys is of value under two conditions:

1. As an emergency in eclampsia, uraemia, suppression of urine, etc. The more desperate the situation the more certainly it should be discussed. He believes that cases have been snatched from apparently impending dissolution by means of this operation.

2. In chronic cases where medical treatment has failed after a thorough trial. In both of the above classes the heart and arteries should be reasonably sound, which means that most success will be obtained in the first half of life.

[J. B. H.]

THE INFLUENCE OF FOODS RICH IN ACCESSORY FACTORS IN STIMULATING DEVELOPMENT IN BACKWARD CHILDREN.

CHICK AND DALYELL (*British Medical Journal*, December 24, 1921) in an elaborate article illustrated with numerous charts, tables, etc., present the details of the influence of food rich in the so-called accessory factors in stimulating development in backward children. They summarize their work as follows:

1. The addition of antiscorbutic juices and of fats containing the fat-soluble accessory factor was found to have a satisfactory result in stimulating growth and progress of nine very backward children, of ages varying from 12 to 31 months. The condition of these children before treatment showed that development had been retarded for many months.

2. The diet allotted for the children did not appear to be lacking in calories, but there was evidence that their food had been deficient in antiscorbutic principle and in milk fat.

3. It appears that deficiency of antiscorbutic material in diet had been an important cause of failure to grow. Eight of the nine children gave a history of previous attacks of definite scurvy, and two showed bony deformities which were probably of scorbutic origin.

4. It is not possible to determine whether the beneficial effect observed after enriching the diet with two accessory factors is to be attributed to the extra antiscorbutic or to the extra fat given; probably both factors were concerned. In some instances improvement in growth and remission of rachitic symptoms were observed after addition of antiscorbutic material to a diet already containing a fair allowance of milk fat.

5. The cases studied indicate that the child's capacity for recovery is considerable when conditions of deprivation are rectified; the normal standard could be approached in six to twelve months, even after twenty-four months of retardation in growth and progress.

[J. B. H.]

LIPODYSTROPHIA PROGRESSIVA, WITH REPORT OF A CASE.

SMITH, H. L. (*Johns Hopkins Hospital Bulletin*, November, 1921) reports in great detail a case of lipodystrophia progressiva which is remarkably well illustrated with photographs of the patient as well as some micro-photographs. He describes this condition in the following paragraph:

"Lipodystrophia progressiva is a relatively rare condition, beginning insidiously and usually in early life; caused, possibly, by endocrine dysfunction; not hereditary; does not endanger life, and is more commonly and more characteristically developed in the female. It is characterized pathologically by a slowly progressive, almost complete and probably permanent disappearance of the subcutaneous fat from the head, face, neck, upper extremities, and from the trunk as far as the pelvic bones and groin folds, and, especially in the female, by an increase in the subcutaneous fat of the buttocks, thighs and legs."

[J. B. H.]

PREGNANCY AND LABOR IN YOUNG PRIMIPARAE.

HARRIS, J. W. (*Johns Hopkins Hospital Bulletin*, January, 1922) has made a study of pregnancy and labor in 500 primiparae and concludes as follows:

"Based upon the study of the 500 patients comprised in this report, it seems permissible to conclude that pregnancy and labor are attended by no greater danger in the young primipara than in the older woman. On the other hand, the duration of labor is actually shorter. As our figures show that the size of the children is not inferior to that noted in older women, and that abnormal pelvis occur quite as frequently, this result must be attributed to the greater elasticity of the soft parts. Consequently, speaking from a purely obstetrical point of view, the ages under consideration appear to be the optimum time for the occurrence of the first labor."

[J. B. H.]

THE RADIOGRAPHIC EVIDENCE OF THE INFLUENCE OF COD-LIVER OIL IN RICKETS.

PARK AND HOWLAND (*Johns Hopkins Hospital Bulletin*, November, 1921) in an article profusely illustrated with excellent x-ray plates, present the radiographic evidence of the influence of cod-liver oil in rickets and summarize their investigations as follows:

"In our studies, which have comprised in all some 50 cases, the results have been uniformly consistent. We feel justified in saying very definitely that cod-liver oil brings about a change in the bones which, if the diet be not too faulty, amounts to complete cure. The change is not noticeable at once, but is readily demonstrable in almost all cases by the end of a month. In two or three months so much infiltration with salts has taken place that the extremities of the bones, except for deformities, are practically normal, and only differences in the finer architecture of the ends of the bones indicate the previous existence of a rachitic process. We look upon cod-liver oil as a specific for rickets. We have not seen it fail in any single instance and we have known it to cure the rickets even though the children were dying of some other disease. Thus, one child with a sarcoma lost the radiographic evidences of rickets, though succumbing to the malignant growth, and another child, who was hanging between life and death as the result of a severe thoracic involvement and who finally died of pneumonia one month

after treatment with cod-liver oil, did not fail to show calcium deposition in the bones both by radiograms and by microscopical examination. We know of hardly another drug that in disease exerts so regular, certain and specific an effect as does cod-liver oil in rickets."

[J. B. H.]

EXPERIMENTAL INOCULATION OF HUMAN THROATS WITH VIRULENT DIPHTHERIA BACILLI.

GUTHRIE, MARSHALL AND MOSS (*Johns Hopkins Hospital Bulletin*, December, 1921) present an elaborate article as a result of their investigations with experimental inoculation of human throats with virulent diphtheria bacilli. The conclusions of this important piece of work are here given as follows:

1. Virulent diphtheria bacilli present in the throats of healthy carriers are capable of producing clinical diphtheria and do not differ from those obtained from patients with the disease.
2. Virulent diphtheria bacilli retain their characteristics despite long residence in the human throat or transfer from one human being to another.
3. The guinea-pig test is a reliable index of the inherent ability of diphtheria bacilli to cause clinical diphtheria in susceptible human beings.
4. The Schick test is a reliable index of the presence or absence of antitoxic immunity against diphtheria.
5. Experimental diphtheria in human beings has a short incubation period, produces marked constitutional effects, and is accompanied by a sharp febrile reaction. It may be cured promptly by the early injection of antitoxin in adequate dosage.

[J. B. H.]

THE GENERAL PRINCIPLES OF TREATMENT IN TUBERCULOUS DISEASE OF THE BONES AND JOINTS IN CHILDREN.

GAUVAIN (*British Medical Journal*, November 26, 1921) discusses the general qualifications which should be present in a health resort or an institution for the treatment of bone and joint tuberculosis in regard to location, climate, altitude, moisture, etc. Intensive heliotherapy with sea-bathing to assist is of distinct help. He then discusses the various methods of local treatment by means of fixation, operation, etc., in both the acute progressive conditions and the chronic or sub-acute stages. There are numerous interesting and instructive illustrations. This article is well worth reading.

[J. B. H.]

A COMPARATIVE ANALYSIS OF 213 FOREARM AND LEG FRACTURES.

BIZABO, A. H. (*Annals of Surgery*, Feb., 1922).—BIZABO writes as follows:

1. Back-fire is one of the commonest causes of forearm fracture (thirty-six per cent.) and slipping and twisting the ankle the commonest mechanism of leg fracture in these series.
2. Fracture of the radius alone is the commonest in the forearm (seventy per cent.) and fractures of both tibia and fibula the commonest in the leg (forty-four per cent.).
3. The radius was fractured in eighty-four per cent. of cases of forearm single and double fractures, and the fibula was fractured in seventy-nine per cent. of cases of leg single and double fractures.
4. The lower third of the radius is the most fragile part of the bone and was fractured in ninety-one per cent. of single radial fractures, and the lower third of the fibula is the weakest point of

the bone and was fractured in eighty-eight per cent. of single fibular fractures.

5. The upper third of the ulna is the commonest seat of single ulnar fractures (sixty-six per cent.), and the lower third of the tibia the commonest place of single tibial fractures (seventy-one per cent.).
6. The lower third of the radius and ulna is the commonest seat of double forearm fractures (seventy-two per cent.), and the lower tibial third the commonest level of the leg double fractures (eighty-eight per cent.).
7. The lower third, the lower half of the upper third, and the middle third of the fibula is the order of frequency of this bone fractures when accompanied by tibial fracture.
8. The ulna is usually fractured below the radial level of fracture (forty-three per cent.), and the fibula above the tibial (sixty-four per cent.).
9. The classic fractures of Colles, Pott, and Dupuytren, as conceived by these authorities, are comparatively rare.
10. Epiphyseal strain, widening of the epiphyseal line and the epiphyseal fractures are commoner at the wrist.
11. The marginal fractures of the radius (Barton, Letenneur) are rarer than the marginal tibial fractures.
12. Longitudinal or medullary splits are commonest in the fibula.
13. Chauffeur's fracture may occur at the upper end as well as at the lower end of both radius and ulna.
14. The commonest direction of the fibular fractures is from before backwards and upwards and usually incomplete, and only seen in the lateral skiagram.
15. Fractures of the tibial tubercle appear to occur in a growing bone, and fractures of the tibial tuberosity in an adult bone.
16. Fractures of the upper half of the ulna, radius, tibia and fibula diaphysis are usually due to direct trauma.

[E. H. R.]

JOHN FERRIAR.

RUHRAH (*Annals of Medical History* III, 4) sketches entertainingly the life and personality of Dr. John Ferriar (1761-1815), physician, poet, essayist, student and critic especially of the novelist Sterne. The particular value of his "Illustrations of Sterne" lies in the light which his erudite scholarship enabled him to shed on Sterne's sources, especially in Bishop Hall's sermons and The *Anatomy of Melancholy*. Though learned, Ferriar was also wise; for in the preface to his essay "On Certain Varieties of Men" he comments on the type

"who reads

Incessantly, but to his reading brings not
A spirit and judgment equal or superior,
Uncertain and unsettled still remains,
Deep vers'd in books, but shallow in himself."

[R. M. G.]

NOVATROPIN.

HOFFMANN (*Wien. klin. Woch.*, Jan. 6, 1922) reports his experimental studies with novatropin, the nitrate of methylated hornatropin, which he finds therapeutically fully equivalent to atropin sulphate, to which it is preferable because it is thirty to fifty times less toxic. Novatropin produces a prompt peripheral action without initial irritation. By the safe employment of intravenous injection and extension of the dosage limits, the paralytic action on parasympathetic nerve endings can be immediately attained with exclusion of the initial irritation phase.

[R. M. G.]

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PURGING THE MEDICAL PROFESSION.

THE magnificent demonstration made by the legal profession of a purpose to eliminate unworthy men and correct unethical practice has encouraged those who have tried to purge the medical profession of quacks, leeches and abortionists. Unfortunately, the public is divided in opinion regarding medical practice, as shown by the endorsement of exponents of the cults and the employment of unscrupulous or untrained, advertising doctors, and therefore there is not in evidence general support of efforts which tend to drive the unethical and the criminal practitioner out of medicine. The great mass of the people is not deeply concerned in maintaining the ethics of practice, and even physicians do not, as a class, exhibit much interest in the operation of legal machinery employed for the purpose of protecting the public. Lack of interest is probably due to the common custom of leaving executive duties to appointed public servants.

So far as the laity is concerned, the reason for indifference is probably lack of understanding; for, unlike the practice of law which, to a large extent, is concerned with material possessions, protection, or other matters about which the average person has more or less definite understanding, medicine is often dealing with unseen forces and hidden dangers involving

uncertain issues, so that the patient or his friends may not exercise calm judgment under stress of anxiety or perchance disappointment over the end-result. The average client of the lawyer can better appreciate the labors of a competent attorney than the patient can those of the scientific physician. History has demonstrated on many occasions that even people of more than average intelligence may be led to be suspicious of the purposes of physicians working for the public weal and interpret the most altruistic actions as the promptings of greed. Even in cases where criminal practice is suspected, the alleged wrongdoer is the object of much sympathy and the corrective agents are antagonized.

Taking the abortionist as an example, while society condemns his practice as an academic proposition, the individual suspect is often regarded as an unfortunate object of persecution. Physicians, clergymen and other influential citizens will often argue for clemency soon after the right to practice medicine has been taken from the transgressor.

Although the prevention of disease is regarded as the most valuable function of medical practice, the prevention of crime does not always receive the endorsement which the importance of the subject warrants. Recent cases illustrate these contentions. For example, the Board of Registration has been engaged in efforts to lead a suspected abortionist to refrain from questionable behavior. Many circumstances focused attention on this man and his associates, and the statement made by a woman in the City Hospital seemed to confirm the suspicions. Although this woman directly charged this man with the responsibility of her condition following an abortion performed by him, and confirmatory evidence was presented, when brought before the authorities she reversed her testimony and the suspected doctor could not be convicted. Soon after this occurrence, the Department of Public Safety became suspicious of the same man who had been charged by this woman of having committed the crime, and presented to the Board the testimony of an investigator who had secured evidence tending to show that he, the doctor, had agreed to perform an abortion for a fee. Although no abortion was performed, the agreement to commit a crime was construed as gross unprofessional conduct, and the suspect was served with a notice to appear before the Board of Registration and show cause why his registration should not be suspended or annulled.

This was nearly two years ago, and the attorneys for the accused immediately appealed to the Supreme Court, seeking to restrain the Board. Justice Jenny has decided that the contention was unsound and on appeal to the full bench a decision was written by Chief Jus-

tice Rugg which was gratifying both because the court upheld the purpose to protect the public and also because the contention of the defendant was unsound. A date was then set for the hearing on the original charge, and counsel for the defendant again applied for a stay of proceedings on the ground that the Board was not competent to conduct the hearing because of prejudice. Justice Carroll declined to issue any order of restraint, giving his opinion that no evidence had been introduced tending to show prejudice or unfitness on the part of the Board, and the hearing was held the following day. The evidence was clear, as testified to by the investigator, but the defense put on the stand a young woman who claimed to have been in the hall outside the consultation room and to have heard the doctor refuse to perform the operation. This resource of the defense might have been more ingenious if it had been shown that there was a dictaphone or some other apparatus which conveyed to one outside, the conversation in the closed room. The doctor claimed that sound could have been transmitted under the door because of a defective threshold. This listener was not seen by the investigator although she passed through the hall where the witness claimed to have been sitting.

The question before the Board was simply on the quality of the testimony. It is certainly extraordinary that a person sitting in a hall could hear and remember conversation in a closed room clearly and correctly, according to the testimony.

After careful deliberation the Board has suspended the license of this man for one year. This decision is evidence of courage in the face of most persistent legal objections. As a side-light, mention may be made of an attack on the Board before a legislative committee by one of the counsel for the accused. This lawyer has repeatedly attacked the Board and in the last instance introduced testimony by a former employee who was discharged for incompetence. A Board, however, can do very little to elevate the profession without active support, and one may question how far physicians can be induced to become interested in the disagreeable details of control of criminal practice. The Committee on Ethics and Discipline of the Massachusetts Medical Society is only concerned in dealing with members of the Society and fortunately has little to do.

It is extremely unpleasant for a respectable practitioner to be concerned with criminal investigation, but if every suspicious circumstance could be reduced to writing and forwarded to the proper authorities, the accumulated testimony might lead to effective action.

There is a common impression that criminal abortions are conducted to a great extent in

Boston. Conviction of these practitioners in our courts is difficult unless a dying declaration has been secured, and even then juries do not always convict. The real remedy lies, to some extent, in the hands of the profession, for many of the women who desire relief from pregnancy consult a physician first and some come under a physician's care afterward.

We may comfort ourselves with the belief that we are not so bad as some other nations, for in 1909 the Obstetrical Society of France affirmed that of children conceived in the great cities of that country, one-third were destroyed by abortion. This criminal procedure and other forms of race suicide may be a real menace to this country for, in the editorial of the *Southern Medical Journal* of April, 1920, the statement is made that the birth rate in New England today is actually lower than it is in France. History shows that every nation which records a progressive lowered birth rate is doomed.

Both on moral as well as material grounds, the conditions call for professional attention.

A CHALLENGE TO CHRISTIAN SCIENCE.

DR. WILSON G. BAILEY of Camden, N. J., has issued a challenge to Mr. Samuel J. MacDonald of the Christian Science Publication Committee through the following announcement published in the *Journal of the Medical Society of New Jersey*:

"I will give Mr. MacDonald, or any institution he may name, \$2,500 if he will cure, by Christian Science alone, an organic case first diagnosed as such by experts."

One may reasonably fear that Dr. Bailey is treading on dangerous ground. Suppose, for example, that a person suffering with incipient tuberculosis applies to a Christian Science healer for treatment and subsequently recovers, as many people have fortunately done without Christian Science or any other treatment, how would a jury of laymen be convinced? If a contest should be started, some uneducated persons might be more ready to endorse the Christian Science claim. A public contest with a quack does not redound to the credit of the medical profession. The logical course consists in education and then more education. The intelligence of the masses is gradually being developed and the fads of the cults will go the way of the ignorant pretenders of the past. Every age will find large groups of persons who will endorse any grotesque claim. Scientific men are out of place in conflicts with uneducated and prejudiced opponents. This has been shown on several occasions when eminent representatives of our profession have been

heckled in public when appearing before legislative committees. Even in courts, well educated physicians can sometimes be made to appear weak under the attack of vigorous and unscrupulous cross-examination. It is regrettable that there is no forum where the fads and follies of the day may be dispassionately discussed. Until there is, our greatest weapon lies in the achievements of medicine, and every member of the profession should feel definitely responsible for the quality of the work done. The results following inefficient care of patients furnishes the Christian Scientist and the chiropractor with a weapon of attack on medicine.

NEWS ITEMS.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.

—The annual meeting of the Society was held at the American House, Boston, on Wednesday, April 19th, 1922, at 11 A.M. The annual oration was delivered at 12 o'clock, noon, by Dr. Thomas M. Durell of Somerville. Subject: "Some Common Matters of Medico-Legal Interest."

The annual dinner was served at 1 P.M.

About 100 members were present, and the list of officers presented by the nominating committee was elected as follows:

For President: Enos H. Bigelow, Framingham. For Vice-President: Eugene A. Darling, Cambridge. For Secretary: Frederic B. M. Cady, Cambridge. For Treasurer: Edward Mellus, Newton. For Commissioner of Trials: Arthur W. Griffin, Malden. For Member of the Nominating Committee of the Massachusetts Medical Society: Edmund H. Stevens, Cambridge. For Alternate: Walter E. Fernald, Waverley. For Censors: Charles B. Fuller, Waltham; Irving J. Fisher, West Newton; James Glass, Framingham; John P. Nelligan, Cambridge; Herbert E. Buffum, Somerville. For Orator: Francis G. Curtis, Newton. For Councillors: District No. 1 (Cambridge)—Edmund H. Stevens, Frederick J. Goodridge, Fred R. Jouett, Lyman S. Hapgood, W. S. Whittemore, J. W. Sever, W. A. Putnam; District No. 2 (Charlestown, Everett, Malden)—John Duff, Clarence H. Staples, Henry J. Keaney, E. W. Baron; District No. 3 (Medford, Somerville)—Charles E. Mongan, G. W. W. Whiting, Warren D. Ruston, Frederick G. Smith; District No. 4 (Arlington, Belmont, Concord, Lexington, Waltham, Watertown)—Walter E. Fernald, Charles O. Chase, Charles B. Fuller, Harold R. Webb; District No. 5 (Brighton, Newton)—George L. West, Edward A. Andrews, Francis G. Curtis, Henry R. Rowen, S. F. McKean, Lewis H. Jack; District No. 6 (Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn)—Charles E. Hills, John E. Dodd; District No. 7 (Hudson, Lincoln, Marlborough,

Maynard, Stow, Sudbury, Wayland, Weston)—Fresenius Van Nuy. For Auditors: Charles F. Maguire, Somerville; Arthur N. Makechnie, Cambridge; A. C. Cummings, Newton.

A committee consisting of Drs. Durell, Dow and West was appointed to consider legislation which might be enacted for the purpose of safeguarding life, imperilled by water gas.

SARAH H. BARBER, who was assistant lecturer on Speech Correction and Development in the Northwestern University last summer, has been appointed instructor in Speech Correction in the University of Utah, Salt Lake City, Utah.

THE National Society for the Study and Correction of Speech Disorder will hold its annual meeting as an allied association with the National Education Association, that meets in Boston from July 3rd to July 7th, 1922. The Society will meet every afternoon during the N. E. A. session. Each afternoon will be taken up with formal papers by officers and Massachusetts speech teachers. Then there will be ten five-minute papers open to general discussion. There will be a demonstration with maps and charts, showing the progress of the American Movement for Speech Correction from coast to coast.

At the monthly meeting of the Medical Staff of the Boston Dispensary, held Thursday, April 13th, Dr. John D. Adams, head of the Orthopedic Department, gave a stereopticon lecture on the meaning and value of occupational therapy.

Dr. Adams said, in part, that through the introduction of occupational therapy into hospitals overseas during the war, the capacity of these hospitals was increased 50 per cent. because, by it, the period of convalescence was materially reduced. He outlined the program of the School for Occupational Therapy in Boston, an activity of the Massachusetts Association for Occupational Therapy, for the training of occupational aides, of which thirty have been graduated in the past two years, in the adaptation of arts and crafts to the convalescent. The School owns the building at 7 Harcourt Street; in addition maintains a Bureau at Berkeley and Boylston Streets, which is a clearing house for the products made at the various hospitals.

An effort is being made to secure 3,000 new members of the Society, which aims to make occupational therapy a part of the treatment in civilian hospitals throughout the State.

The establishment of out-patient industrial workshops in connection with the after-treatment of discharged hospital cases is also a part of the plan to extend the benefits of this kind of work.

WORCESTER DISTRICT MEDICAL SOCIETY.—The regular meeting of the Worcester District Medical Society was held April 12, at 8.15 p.m., at the Worcester State Hospital on Belmont Street. The Hospital was open for inspection from 7 to 8 p.m., and many of the fellows availed themselves of the opportunity to visit this large institution.

Dr. Eugene R. Kelley, State Commissioner of Health, was the first speaker, and took as his subject, "State Medicine vs. Preventive Medicine." He said that health officers were in a peculiar position and had often to apologize for the profession and at the same time to the profession. He defined state medicine as a procedure where the government entered the practice of medicine. He discussed state medicine as understood in England and said that it was too early to tell how it was working out. Probably the average income of the profession was increased, but that some claimed that it had been a failure as far as preventive medicine was concerned and that it had certainly increased malingering. He quoted Mackenzie as saying that more effort should be made to study disease tendencies rather than the disease and its pathology already developed. That more attention should be given to the out-patient departments, where disease in its incipency was seen. He quoted Dr. Emerson, formerly Commissioner of Health for New York, as the most conspicuous proponent of state medicine as conducted in England. He was sure that the country was about to awaken to the importance of preventive medicine. Every boy and girl has a right to be well-born and free from disease.

Dr. John W. Bartol, President of the State Society, in discussing the address of the Commissioner, said that the Board of Health as now organized was admirably conducted and that probably the State Legislature would, from time to time, ask the Board to take on new duties. He realized that the legislators did not always take the Commissioner's advice, but that the Commissioner was a servant of the people and would do as he was told. Community centers for diagnosis was a tendency towards state medicine.

Dr. Walter Fernald, of Waverley, was the next speaker on the program, and discussed "Mental Health in Children." He said that the Commissioner in his address had made a good background for his talk, as the Legislature in 1919 had made a beginning in state medicine when it delegated to the School of Feeble Minded and the State Hospitals to examine all the children in our public schools who were three years or more retarded. During the last year, more than 5000 children had been examined under this act already and that he felt that great good would come from this work ex-

tending over a series of years. Mental diseases were not seen until they were established and that the inhabitants of our insane hospitals twenty years hence were now in our public schools, and that this legislation had made it possible to reach these cases in the formative period. He said that the science of measurement of intelligence had reached a definite point where, by examination of the child, it can predict the mental level of that person when it reaches adult life. At the age of 14, the child's mental development reaches its height. Very few mistakes are made in foretelling the mental age. You can teach a child only certain definite facts. A mental defect is not an evidence of inferiority. Mentally inferior people are often acceptable socially. Through the school clinics, the defectives are found early, helped physically, the institutional cases separated, and the rest helped to support themselves.

Dr. A. C. Hurd of Millbury, in discussing the paper, asked if it were possible for the family physician to obtain the results of the examinations of these children, and was informed by Dr. Fernald that he thought that the school and family physicians, when interested, should have this information.

Dr. W. P. Bowers, editor of the JOURNAL, also discussed the paper and said that, in his opinion, there was no danger from state medicine in this State, because the citizens opposed it. He believed that occasionally special branches may be developed, but no state medicine such as developed in England.

Dr. Bowers introduced his friend, Dr. C. E. Abbott of Andover, Mass., who is at present a member of the State Legislature. Dr. Abbott urged the members to discuss medical matters with the Legislators when such questions were before them.

President Goodwin announced that the annual meeting would be held in Clinton next month on invitation from the Clinton members of the Society. After the meeting, the fellows were entertained at lunch by the Staff of the hospital.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.—The annual meeting will be held in Russell Hall, Y. M. C. A. Building, 40 Lawrence Street, Lawrence (Tel. 1260), Wednesday, May 3, 1922. Dinner will be served at 12.30 o'clock, sharp. After the dinner the business meeting will occur at 1.45. Following the business meeting these papers will be presented:

J. P. Bill, M.D., D.P.H., of Boston, upon "Individual Preventive Medicine—Its Nature and Possibilities" (40 minutes); G. G. Smith, M.D., of Boston, Assistant in Department of Genito-Urinary Diseases, Massachusetts General Hospital, and Assistant Editor of

the BOSTON MEDICAL AND SURGICAL JOURNAL, upon "The Management of Cancer of the Bladder" (40 minutes); Mr. G. H. Crosbie, of Boston, Agent for the United States Fidelity and Guaranty Co., insuring members of the Massachusetts Medical Society under a group Indemnity Policy approved by the Council November 9, 1921. He will explain in detail the workings of the policy (10 minutes). After all the papers have been read they will be open for discussion and each speaker is limited to five minutes. Meeting of the Censors will be held at Hotel Bartlett, 59 Main Street, Haverhill (Tel. 8710), on Thursday, May 4, at 2 P.M., sharp. Candidates should present their diplomas to the Secretary one week in advance. J. FORREST BURNHAM, M.D., *Secretary*.

CARTER MEMORIAL HOSPITAL.—Under the direction of J. D. Leland & Company, architects and engineers, the Carter Memorial Hospital of Lancaster and Clinton is to be extended and altered for obstetric service. This hospital was originally presented to the Clinton Hospital Association by Miss Nellie Carter, in memory of her father and mother, formerly of Lancaster, in accordance with the expressed wish of her sister, of Boston. It was originally planned that this building would be a link in the chain provided by local hospitals for the purpose of coöperating with the State and county in meeting the tuberculosis problem.

The need for more extensive facilities for the care of obstetric cases and the desire on the part of Miss Carter to make the hospital accomplish the greatest possible good has led to the converting of the present building into a well-equipped lying-in hospital. There will be accommodations for over twenty patients with convenient delivery and operating rooms. This building is detached from the main Clinton hospital except by tunnel, so that the objections incident to close association with general hospital patients will be well met.

On April 18, 1922, Dr. Francis M. Rackemann delivered an address before the New York Academy of Medicine on the Treatment of Asthma, and on April 19, 1922, Dr. J. Delinger Barney of Boston read a paper entitled The Question of Recurrent Renal Calculi before the same society.

WORCESTER NORTH DISTRICT MEDICAL SOCIETY.—The Sixty-Fourth Annual Meeting was held at the Fay Club, Fitchburg, Tuesday, April 25, 1922, at 12 o'clock noon. The annual oration was delivered by Dr. H. R. Nye of Leominster. Annual election of officers and annual banquet followed.

Miscellany.

STAFF CLINICAL MEETING, MASSACHUSETTS GENERAL HOSPITAL, MARCH 12, 1922.

THE first paper of the evening was given by Dr. Chester M. Jones, on the subject of bile pigment studies in the duodenal contents.

After outlining briefly the various causes for increased bile pigment elimination in the duodenal contents, Dr. Jones presented several cases in which the bile pigment metabolism was typically altered.

The first case was one of infectious neuritis, in which the focus of infection was not definitely determined. Examination of the duodenal contents showed a tremendous alteration in pigment elimination, both in total amount, and in the ratio between the individual pigment elements. The presence of increased amounts of urobilinogen, and the high level of all the pigments was definite evidence of pathology in the biliary tract, with involvement of the liver, and probably the gall-bladder.

The second case was that of a patient with acute symptoms referable to the upper abdomen, in whom an absolute diagnosis was not possible. Differential diagnosis lay between acute cholecystitis, subacute perforation of the stomach and pancreatitis. Examination of the duodenal contents, with especial reference to the bile pigments, indicated very marked involvement of the biliary tract, and especially the liver. The sediment gave evidence of an acute inflammatory process of the biliary tract and, with the physical findings, indicated acute cholecystitis. Operation confirmed the diagnosis.

A third case was presented of the duodenal findings in a case in which the gall-bladder had been removed for typical gallstone attacks. Following the operation the patient had several very mild attacks of right upper quadrant pain with chills. Duodenal analysis revealed in a careful sediment examination the presence of gravel, bile-stained pus and mucus. Study of the bile pigments showed a very low level of pigment elimination, and a marked alteration in the ratio between the individual pigment elements. The two findings provided conclusive proof of further calculus formation in the common duct of higher biliary radicles, with partial obstruction. Definite liver damage was indicated by an increase in the amount of urobilinogen.

In addition to a detailed discussion of the above cases, Dr. Jones outlined briefly some preliminary work on the study of various types of infectious jaundice.

The second paper was on the "Results of

Quinidine Therapy," by Dr. L. E. Viko. Dr. Viko spoke as follows:

A statistical study of the first sixty cases of auricular fibrillation, to whom we have given quinidine, shows that, of the 40 cases (66 per cent.) restored to normal rhythm by the drug, 21 cases (about one-half) relapsed after varying periods, while 19 cases remain in normal rhythm at the present date, after periods up to 9½ months.

As factors in restoration and maintenance of normal rhythm, age, sex, etiological type of heart disease, valve lesions, and duration of heart disease, appeared unimportant. On the other hand, the percentage of restoration and maintenance varied inversely with the (1) duration of fibrillation, and (2) the degree of recent failure.

Large or long continued dosage did not give proportionate results. Proper rationing of restored cases, yet to be worked out satisfactorily, promises considerable decrease in the number of relapses.

One patient died suddenly a few hours after the restoration of normal rhythm, probably from cerebral embolism; in two cases, fixed flutter was produced with harm to the patient.

The benefit from restoration, difficult to estimate because of the continuation of the effect of digitalis previously given, seemed marked in seven cases, moderate in ten, and transient or absent in the remaining cases.

Probably with a better knowledge of the drug, quinidine will prove a valuable agent, perhaps more prophylactic than directly therapeutic, and then only in a small group of cases with recent fibrillation and no failure.

Dr. Levine commented upon the doubtful clinical benefit derived from restoration of normal rhythm, especially in view of the dangers.

Dr. P. D. White commented upon the probable benefit from the drug in cases of paroxysmal fibrillation and flutter. He also commented upon a personal communication from Dr. Marvin at New Haven.

The third paper was by Dr. E. C. Romberg and was entitled, "Studies of the Causes of Death in Early History." An abstract of Dr. Romberg's remarks is as follows:

Dr. Margaret Warwick showed that out of 136 autopsies of infants completely studied, 44 per cent. showed cerebral hemorrhage, and 20½ per cent. hemorrhagic diseases of the new-born. Cerebral hemorrhage of the new-born frequently presents no distinctive symptoms or syndrome. In many cases the histories showed that the babies were perfectly normal at the time of birth, the symptoms, when they were present, not appearing for many hours or days. Even in a short, normal labor, there is great congestion, perhaps caused by the extreme venous stasis of asphyxiation, distortion, and perhaps injury of the poorly

supported venous radicles of the cerebral cortex of the infant. While there was prolonged labor, bulging fontanelle, general spasticity, and where cerebral edema was assumed, calomel 1 gr. was given, soon resulting in the disappearance of these symptoms.

There are children who apparently have had a normal delivery, who at birth breathed well, appeared normal physically, who had no physical signs of intracranial hemorrhage, but whose breathing became very irregular, feeble, color cyanotic, all progressively worse in 24 hours, ending finally in the patient's death. No definite diagnosis could be made.

A plaster mould of the infant's cranium was made immediately following its delivery, in order to have a permanent record of the location of those points where unusual pressure was exerted, to record if any resisting part was encountered, to note abnormal excessive moulding; and then another mould was taken in 24 hours to obtain a permanent impression of the child's ability to mould its head towards normal.

Moulds of these children previously mentioned, upon whom no definite diagnosis could be made, showed no points of abnormal pressure. The labor was uneventful. Autopsies were done on seven. In four they were massive, firm, subtentorial blood clots entirely surrounding the medulla. The rest of the findings were negative. In two, there were thin, hemorrhagic areas over the superior cortex, with slight punctate hemorrhages throughout the cerebral tissue. In one, there were subpleural petechiae with an associated atelectasis. No coagulation or bleeding times were done.

In the normal new-born, there is found a tendency to prolongation of coagulation and bleeding time in the first few days of life. Hemorrhage is accompanied, in many cases at least, with an exaggeration of this tendency. Past data on coagulation time are very unsatisfactory because of the different methods employed. Foote and Rodda have recently demonstrated that hemorrhagic disease of the new-born may be a prominent factor in the causation of intracranial hemorrhage.

From these findings one can justly assume that intracranial hemorrhage is a common condition in new-born infants, and may be a local manifestation of a general condition of hemorrhagic disease of the new-born. Blood coagulation tests should be performed on the new-born as a routine for the purpose of collecting well-controlled, standardized data, and then for the selection of certain hemorrhagic conditions before the onset of marked symptoms, indicating the administration of blood to combat the condition.

The last paper was a report of metabolism studies in a case of acute leukemia, by Dr. William G. Lennox.

The patient was a girl of 18, whose symptoms began abruptly three weeks before admission to the hospital. After admission, she lived two months. A chart of her condition during the last 49 days of life showed the effect of x-ray treatment on the basal metabolic rate, the nitrogen balance, white count, pulse, temperature and weight.

Nitrogen equilibrium was maintained on a daily intake of 10 grammes of nitrogen. It was found that x-ray of the smaller superficial lymph-nodes had no effect on the factors named, but that exposure of large masses of glands and of the spleen caused marked outpouring of urinary nitrogen, and diminished leucocyte count, the latter falling from 33,000 to 4,500 c.m.m. This condition would last for two or three days only, after which there would be a period of equally marked nitrogen retention, with coincidentally rising leucocyte count. The basal metabolic rate and the temperature did not show these rapid fluctuations and were better guides to prognosis than was the leucocyte count. Just before death, the latter was normal, but there was a large negative nitrogen balance, and the basal metabolism maintained its high rate of plus 50 per cent.

LEGISLATIVE MATTERS.

SENATE bills 270 and 271, two industrial accident measures, which have been favored by the commission in an unofficial way, have received adverse reports by the Joint Judiciary Committee and these reports have been accepted by the House.

Recommendations of Governor Cox Relating to a Public Health Hospital:

To the Honorable Senate and House of Representatives:

The United States has acquired by purchase certain land in Rutland, Worcester County, for the site of a Public Health Service Hospital. The land is described in a photostatic copy of the deed to the United States and blue print of a survey made in July, 1921, which have been filed in the office of the Secretary of the Commonwealth. The hospital at Rutland is to be used for the care and treatment of discharged sick and disabled soldiers who served in the World War. The United States Government has requested that Massachusetts cede jurisdiction of the land in question in order that it may not be restricted in its endeavor to provide promptly the facilities authorized by Congress for the care of disabled veterans. Therefore I recommend legislation to the end that Massachusetts shall cede jurisdiction of the land in Rutland which the United States has purchased.

CHANNING H. COX.

The following Resolve has been presented by the Committee on Ways and Means Providing for a Special Commission to Investigate and report upon the Need for Financial or Other Aid to Physically Handicapped Citizens.

Resolved, That a special commission is hereby established to consist of the commissioner of public welfare, the chairman of the industrial accident board and the director of the commission for the blind to investigate and report to the general court, not later than the second Wednesday in January next, such recommendations for legislation upon the subject matter contained in house documents three hundred and sixty-nine and three hundred and seventy, as may be advisable.

The commission shall consider and report in particular a definition for "physically handicapped citizens" to include only such citizens as have been seriously maimed or are otherwise crippled to such an extent as to be definitely handicapped in obtaining employment, and as to the number of citizens of the Commonwealth coming within such definition, and their need for financial aid.

THE SALE AND POSSESSION OF DANGEROUS WEAPONS.

The Committee on Public Safety have reported a bill (House 1558) defining the term "firearms" in Section 1, and Section 2 provides for licensing of persons to sell, rent, or lease firearms. It is provided in Section 4 that every licensee shall keep a record of every sale of a firearm. In Section 8, Amendment to Section 30 of Chapter 140 provides as follows:—*Section 130.* Whoever sells or furnishes to a minor under the age of fifteen or to an unnaturalized foreign-born person who has not a permit to carry firearms under section one hundred and thirty-one, any firearm, air gun or other dangerous weapon or ammunition therefor shall be punished by a fine of not less than ten nor more than fifty dollars, but instructors and teachers may furnish military weapons to pupils for instruction and drill.

Section 9 provides for the issuing of permits to carry firearms as follows:—*Section 131.* The justice of a court or a trial justice, the board of police of a city or the commissioner of public safety or persons authorized by them may, upon the application of any person, issue a license to such person to carry a pistol or revolver in the Commonwealth if it appears that the applicant has good reason to fear an injury to his person or property or for any other proper purpose, and that he is a suitable person to be so licensed.

Further restrictions are found in amendments under Section 10, as follows:—*Section 12.* Whoever manufactures or causes to be

manufactured, or sells or exposes for sale, an instrument or weapon of the kind usually known as sling shot, sword cane, pistol cane, bludgeon, blackjack, or metallic knuckles, shall be punished by a fine of not less than fifty nor more than two hundred dollars or by imprisonment for not more than six months.

The Committee on Public Health has reported Senate bill 240, which provides that: No person, not being a physician, dentist, or veterinarian registered under the laws of this Commonwealth or of the state where he resides, wholesale druggist, manufacturing pharmacist, registered pharmacist, manufacturer of surgical instruments, official of any government having possession of the articles hereinafter mentioned by reason of his official duties, nurse acting under the direction of a physician, employee of an incorporated hospital acting under the direction of its superintendent or officer in immediate charge, or a carrier or messenger engaged in the transportation of such articles, shall have in his possession a hypodermic syringe, hypodermic needle, or any instrument adapted for the use of narcotic drugs by subcutaneous injection. No such syringe, needle or instrument shall be delivered, sold or exchanged except to a registered pharmacist, physician, dentist, veterinarian, wholesale druggist, manufacturing pharmacist, a nurse upon the written order of a physician, or an employee of an incorporated hospital upon the written order of its superintendent or officer in immediate charge.

The remainder of the bill is important and is printed in full:

Section 4. Section sixty-two of chapter one hundred and twenty-three of the General Laws is hereby amended by striking out, in the second and third lines, the words:—"The Norfolk state hospital", and inserting in place thereof the words:—"any state hospital, infirmary or institution under the department, or under the department of public welfare or the department of public health,—so as to read as follows:—*Section 62.* Any of the judges named in section fifty, or a judge of the municipal court of the city of Boston, may commit to any state hospital, infirmary or institution under the department, or under the department of public welfare or the department of public health, to the McLean hospital or to a private licensed institution, by an order of commitment, directed to the trustees, superintendent, or manager thereof, as the case may be, made in accordance with section fifty-one, and accompanied by a certificate, in accordance with section fifty-three, by two physicians qualified as therein provided, any male or female person, who is subject to dipsomania or inebriety either in public or private, or who is so addicted to the intemperate use of narcotics or stimulants as to have lost the power of self-

control. The judge receiving the application for such commitment shall examine on oath the applicant and all other witnesses, and shall reduce the application to writing and cause it to be subscribed and sworn to by the applicant. He shall cause a summons and copy of the application to be served upon such person in the manner provided by section twenty-five of chapter two hundred and seventy-six. Such person shall be entitled to a hearing unless after receiving said summons he shall in writing waive a hearing, in which case the judge may issue an order for his immediate commitment as aforesaid, without a hearing, if he is of opinion that the person is a proper subject for custody and treatment in the institution to which he is committed. The commitment may be made forthwith, if the examining physicians certify the case to be one of emergency. A person committed as aforesaid may be detained for two years after the date of his commitment, and no longer.

Section 5. Section eighty of said chapter one hundred and twenty-three is hereby amended by inserting after the word "institution", in the first line, the words:—"specified in section sixty-two,—so as to read as follows:—

Section 80. The superintendent or manager of any institution specified in section sixty-two for the care and treatment of persons addicted to the intemperate use of narcotics or stimulants may, when requested by a physician, by a member of the board of health or a police officer of a town, by an agent of the institution's registration department of Boston, by a member of the state police, or by a wife, husband, guardian or, in the case of an unmarried person having no guardian, by the next of kin, receive and care for in such institution, as a patient for a period not exceeding fifteen days, any person needing immediate care and treatment because he has become so addicted to the intemperate use of narcotics or stimulants that he has lost the power of self-control. Such request for the admission of a patient shall be made in writing and filed at the institution at the time of his reception, or within twenty-four hours thereafter, together with a statement, in a form prescribed by the department, giving such information as it deems appropriate. The trustees, superintendent or manager of such institutions shall cause to be kept a record, in such form as the department requires of each case treated therein, which shall at all times be open to inspection of the department and its agents. Such records shall not be a public record, nor shall the same be received as evidence in any legal proceeding. The superintendent or manager of such an institution shall not detain any person received as above for more than fifteen days, unless, before the expiration of that period, such person has been

committed under section sixty-two, or has signed a request to remain at said institution under section eighty-six.

Section 6. Chapter one hundred and twenty-three, as amended in section one hundred and thirteen by section one of chapter two hundred and seventy of the acts of nineteen hundred and twenty-one, is hereby further amended by striking out said section one hundred and thirteen and inserting in place thereof the following:

Section 113. At any time prior to the final disposition of a case in which the court might commit an offender to the state prison, the reformatory for women, any jail or house of correction, the Massachusetts reformatory, the state farm, the industrial school for boys, the industrial school for girls, the Lyman school, any county training school, or to the custody of the department of public welfare, for any offence not punishable by death or imprisonment for life, a district attorney, probation officer or officer of the departments of correction, public welfare or mental diseases may file in court an application for the commitment of the defendant in such a case to a department for defective delinquents established under sections one hundred and seventeen and one hundred and twenty-four, or to a department for the cure of drug addicts, established by the Governor and council under authority of said sections. On the filing of such application the court may continue the original case from time to time to await disposition thereof. If, on a hearing thereon, it appears that the defendant, within a period of three years, has been found guilty of an offence for which he might have been committed to any institution above named or to the custody of the department of public welfare, or that he has been adjudged a juvenile delinquent, and that he is mentally defective, or addicted to the intemperate use of stimulants or narcotics, and is not a proper subject for the schools for the feeble-minded or for commitment as an insane person, the court may commit him to such department for defective delinquents, or to such department for the cure of drug addicts, as the case may be, according to his age and sex, as hereinafter provided.

Section 7. Chapter one hundred and twenty-three is hereby amended by striking out section one hundred and fourteen and inserting in place thereof the following:—*Section 114.* If an offender while under commitment to any of the institutions named in the preceding section or to the department of public welfare persistently violates the regulations of the institution or department in whose custody he is, or conducts himself so indecently or immorally, or otherwise so grossly misbehaves as to render himself an unfit subject for retention in said

institution or by said department, and it appears that such offender is mentally defective or addicted to the intemperate use of stimulants or narcotics, and is not a proper subject for a school for the feeble-minded, a physician in attendance at any institution named in the preceding section or a physician employed by said department shall make a report thereof to the officer in charge of said institution or to the director of child guardianship who shall transmit the same to one of the judges mentioned in section fifty. The judge shall make enquiry into the facts and, if satisfied that the offender is mentally defective or so addicted and not a proper subject for a school for the feeble-minded, shall order his removal to a department for defective delinquents, or to a department for the cure of drug addicts, as the case may be, according to his age and sex as hereinafter provided.

Section 8. Chapter one hundred and twenty-three is hereby further amended by striking out section one hundred and fifteen and inserting in place thereof the following:—*Section 115.* No person shall be committed to a department for defective delinquents or to a department for the cure of drug addicts under either of the two preceding sections unless there has been filed with the judge a certificate that he is mentally defective or is addicted to the intemperate use of stimulants or narcotics by two physicians qualified as provided in section fifty-three. The fees of the certifying physicians shall be of the amount and paid in the manner provided for like service in sections three to one hundred and twelve, inclusive.

Section 9. Section one hundred and seventeen of said chapter one hundred and twenty-three is hereby amended by inserting after the word "inclusive", in line six, the words:—At any state institution under the supervision of the department of correction, the department of public welfare or the department of mental diseases, there may be established and maintained, with the approval of the Governor and council, a department or departments, to be termed department for drug addicts, for the correction and care of persons addicted to the intemperate use of stimulants or narcotics and committed thereto under sections one hundred and thirteen to one hundred and sixteen, inclusive,—so as to read as follows:—*Section 117.* At the reformatory for women, the Massachusetts reformatory, the state farm or such other place or places as may be approved by the Governor and council, there may be maintained departments to be termed departments for defective delinquents, for the custody of persons committed thereto under sections one hundred and thirteen to one hundred and sixteen, inclusive. At any state institution under the supervision of the department of correction, the de-

partment of public welfare or the department of mental diseases, there may be established and maintained, with the approval of the Governor and council, a department or departments, to be termed department for drug addicts, for the correction and care of persons addicted to the intemperate use of stimulants or narcotics and committed thereto under sections one hundred and thirteen to one hundred and sixteen, inclusive. All men and boys so committed shall be committed to the department for male defective delinquents. All women and girls so committed shall be committed to the department for female defective delinquents. All such persons committed to the department for defective delinquents at any institution under control of the department of correction shall be and remain in the custody of the said department until discharged as hereinafter provided.

Section 10. Section one hundred and eighteen of said chapter one hundred and twenty-three is hereby amended by inserting after the word "delinquents", in line two, the words:— or drug addicts,—so as to read as follows:—

Section 118. The board of parole of the department of correction may parole inmates of the departments for defective delinquents or drug addicts on such conditions as it deems best, and may at any time during the parole period recall to the institution any inmate paroled.

Section 11. Section one hundred and nineteen of said chapter one hundred and twenty-three is hereby amended by inserting after the word "delinquent", in line two, the words:— or department for drug addicts, so as to read as follows:—*Section 119.* Any person may apply at any time to the justice of the district court in whose jurisdiction a department for defective delinquents or a department for drug addicts is located, for the discharge of any inmate of said department. A hearing shall thereupon be held, of which notice shall be given to the applicant and to the person in charge of the institution where the inmate is confined. If after the hearing the justice shall find that it is probable that the inmate can be allowed to be at large without serious injury to himself, or damage or injury or annoyance to others, he may order the person having custody of said inmate to parole him. Further action on the application for the inmate's discharge shall be suspended for one year from the date of his parole. If, at any time prior to the expiration of said year, the justice of the court where the application was filed shall be satisfied that the best interests of said inmate, or of the public, require the recall of the inmate from parole, he may authorize the person having custody of the inmate to so recall him. If an application is denied, a new appli-

cation shall not be made within one year after the date of the order denying the previous application. If at the end of said year the justice shall find that said inmate can be allowed to be permanently at large without serious injury to himself, or damage or injury or annoyance to others, he may order the person having custody of said inmate to discharge him. If a person discharged under this section is found by any court to have committed, after his discharge, any offence against the laws of the Commonwealth, said court may commit such person to a department for defective delinquents without the certificate of any physician.

Section 12. Section one hundred and twenty-four of said chapter one hundred and twenty-three is hereby amended by inserting after the word "correction", in line four, the words:— the commissioner of mental diseases, or the commissioner of public welfare, as the case may be,—so as to read as follows:—*Section 124.* Sections one hundred and thirteen to one hundred and twenty-four, inclusive, shall take effect as to any of the departments named in section one hundred and seventeen when the same is ready for occupancy. The commissioner of correction, the commissioner of mental diseases, or the commissioner of public welfare, as the case may be, shall notify the Governor when a department is in a suitable condition to receive inmates; and the Governor may then issue his proclamation establishing such department as a place for the custody of defective delinquents.

SUMMER COURSES IN PUBLIC HEALTH AND HEALTH EDUCATION

The Massachusetts Institute of Technology offers summer instruction during the months of June, July, August and September, in Chemistry, Biology and Public Health, Physics, General Studies, Entrance Subjects, etc. Through its Department of Biology and Public Health, the Institute is this year expanding still further its summer instruction in Public Health and Health Education.

The recent and rapid development in methods of health work in the public schools has created a demand for new courses specially arranged for teachers, school nurses who have teaching responsibilities, and teachers of physical education who have classes in hygiene and public health. Courses 1, 2, 3 and 4, listed below, are particularly designed for this group of workers.

For those desiring to become laboratory technicians, and as preparation for more advanced studies in the public health field, technical training in bacteriology and public health laboratory methods is offered in Courses 5 and 6, listed below.

Credit for these courses will be given by Massachusetts Institute of Technology. A certificate from the Division of University Extension of the Massachusetts Department of Education is obtainable for each course satisfactorily completed. The Boston School Department will allow credit for professional advancement to Boston teachers taking this course. Each person will be required to register in advance at the Registrar's Office for every course he or she

desires to attend. A registration fee of \$2 will be imposed for registration later than 4 o'clock on the day preceding the day of the beginning of the course. The fee for each course must be paid to the Bursar before the time fixed for beginning the course.

1. METHODS OF TEACHING HYGIENE AND PUBLIC HEALTH IN THE PUBLIC SCHOOLS, PROF. C. E. TURNER.
Mon., Tues., Wed., Thurs., Fri., 9-10 A. M., July 10 to August 11, inclusive. 30 hours. Fee \$20.

This is a course of 30 classroom hours designed for teachers and for school nurses who have teaching responsibilities. The course begins with a brief statement of the organization and administration of school health work, but devotes most of the time to a detailed consideration of the subject matter and procedure in health teaching through the various grades. New methods of health teaching as they have been developed in experimental work by the instructor and by other health workers in various parts of the country will be described. These methods include teaching with motion pictures, story telling, scrap books, competitions, weight records, etc. There will be five extra periods given over to special lectures, classroom demonstrations, or to the study of clinics for the correction of posture, faulty diet, and other defects.

2. PERSONAL HYGIENE AND NUTRITION, PROF. JOHN W. M. BUNKER.

Mon., Tues., Wed., Thurs., Fri., 10-11 A. M., July 10 to August 11, inclusive. 25 hours. Fee \$20.

This course will include a discussion of the practical aspects of the right use and proper care of the human body. Special attention will be given to food requirements with practical work in planning the diet.

Posture, exercise, bathing, clothing, sleep, ventilation, mental hygiene, basal metabolism, maintenance requirements, over-weight and underweight, infant feeding, and foods of the foreign-born, are among the topics that will be considered.

3. SANITARY SCIENCE AND PUBLIC HEALTH, PROF. S. C. PRESCOTT AND PROF. C. E. TURNER.

Tues., Wed., Thurs., Fri., 11-12 A. M., July 10 to August 11, inclusive. 20 hours. Fee \$20.

This is a course of twenty lectures amply illustrated by lantern slides and motion pictures, and supplemented by outside reading. It is designed to give a comprehensive view of health and disease, parasitism, resistance and immunity, how germs attack and how we may secure protection against disease by vaccination and the use of antitoxin. The broader public health aspects of water supply and waste disposal, food control and sanitation and the work of official public health agencies will be explained.

4. ELEMENTARY BACTERIOLOGY: A CONSIDERATION OF THE RÔLE OF MICRO-ORGANISMS IN EVERY-DAY LIFE, PROF. JOHN W. M. BUNKER AND DR. M. P. HORWOOD.
Mon., Tues., Wed., Thurs., Fri., 1-3.30 P. M., July 10 to August 11, inclusive. 60 hours. Fee \$30.

Many courses in Bacteriology deal only with relation of microbes to disease. This course is designed to give the teacher or general student a comprehensive, well-balanced survey of the behavior of micro-organisms and the part they play in affecting the environment of mankind.

While the relation to disease will be considered, special emphasis will be placed on such topics as the relation of bacteria to soil, water, and foods, fermentation and its applications in the home and in industries, bread-making, butter, cheese-ripening, food preservation, water purification, refuse disposal and soil fertility.

Lectures will be supplemented by demonstrations and laboratory work.

5. BACTERIOLOGY 730,* DR. M. P. HORWOOD.

Mon., Tues., Wed., Thurs., Fri., 9-12 A. M., July 10 to August 18, inclusive. 90 hours. Fee \$40.

A course especially planned for those who intend to follow bacteriology as a profession. The work will correspond in a broad way with that of the first term of the Institute course 730. It includes a fundamental consideration of the biology of the bacteria with a thorough study of selected types, and prepares the student for advanced work in technical phases of the subject. Preparation in chemistry, biology, and the use of the microscope is desirable.

6. PUBLIC HEALTH LABORATORY METHODS 738,* DR. FRANCIS H. SLACK.

Mon., Wed., Fri., 1-4 P. M., July 10 to August 18, inclusive. 54 hours. Fee \$30.

A practical course in diagnostic methods and other procedures employed in public health laboratories. Training is given in laboratory diagnosis of diphtheria, tuberculosis, typhoid fever, malaria, and certain other communicable diseases, and in the Wassermann and other complement fixation tests. This course is valuable for physicians, laboratory technicians, and those preparing for administrative positions in public health. It is in general comparable to the first term work in the Institute course 738.

SCHEDULE OF HOURS—COURSES FOR TEACHERS AND SCHOOL NURSES.

9-10 A. M., Methods of Teaching Hygiene and Public Health in the Public Schools.

10-11 A. M., Personal Hygiene and Nutrition.

11-12 A. M., Sanitary Science and Public Health.

1-3.30 P. M., Elementary Bacteriology: A Consideration of the Rôle of Micro-Organisms in Every-Day Life.

PROFESSIONAL COURSES—JULY 10 TO AUGUST 18.

9-12 A. M., Bacteriology 730.

1-4 P. M., Public Health Laboratory Methods 738.

*The fee for both 5 and 6 will be \$65.

Correspondence.

ON THE REVIEW OF DR. BULKLEY'S BOOK.

April 5, 1922.

Mr. Editor:

Your review of my new, large, fourth book on "Cancer and Its Non-Surgical Treatment" has just come to my notice. It gives a fair presentation of the truth which I have endeavored to set before the medical profession during the last ten years, but the remark that "if its results were as successful as the author claims, it would long ago have been universally accepted." The writer has evidently forgotten the length of time which it usually takes for a new idea in science, mechanics, and medicine to be accepted by all. Jenner, Pasteur, and Lister were long doubted and ridiculed, and now, even Jenner's life-saving discovery is contested by some, after 100 years of proof. The medical profession in general have accepted the new cancer proposition, as shown by the wonderful reviews in good medical journals, and by the hundreds of letters received from able men all over this country and outside. The relatively few research and surgical autocrats and oligarchs, who ignore it through wilful ignorance, will have to yield, sooner or later.

The closing sentences of the review amuse me. Of course I am wrong in the opinion of these latter, for obvious reasons, but none of my proofs have ever been refuted, or scientifically disputed.

The allusion to heresy and its punishment is also amusing, but sad. We all know that persecution for a good and righteous cause has always been followed by an acceptance and spread of the cause. I wish that my book could be publicly "burned at the stake." The Bible has often had this reception at the hands of deluded men, but at the present day our American Bible Society has issued, on the average, *five million* copies each year, for some years. While I do not expect my book to reach that circulation, the way it is called for all over the world is certainly very encouraging. I wish your reviews were signed, in order that I might know who was the author of the brilliant suggestion.

I remain,

Sincerely yours for the truth,
L. DUNCAN BULKLEY, M.D.

[NOTE—The JOURNAL presents the somewhat caustic and sarcastic letter of Dr. Bulkley because its policy is to give both sides fair opportunity for the expression of opinions.

The men who review books for this JOURNAL are selected because of their attainments. Many book reviews are worthless because no real criticism is expressed. If a book is sent to the JOURNAL, it is our policy to render an impartial opinion. Readers expect that notice should be taken of doubtful or objectionable views. The present policy will be continued regardless of objections offered by writers.—Editor.]

DEPARTMENT OF PUBLIC HEALTH.

REPORTED WEEK ENDING APRIL 15, 1922.

Disease	No. of Cases	Disease	No. of Cases
Chicken-pox	104	Pneumonia, lobar	149
Diphtheria	141	Scarlet-fever	182
Dog-bite	4	Septic sore throat	2
Dysentery	1	Syphilis	37
Encephalitis lethargica	14	Suppurative conjunctivitis	18
Epidemic cerebro-spinal meningitis	3	Trachoma	3
German measles	23	Tuberculosis, pulmonary	141
Gonorrhea	98	Tuberculosis, other forms	39
Influenza	66	Typhoid	9
Measles	876	Whooping-cough	104
Mumps	127		
Ophthalmia neonatorum	25		

NOTICES.

CENSORS' MEETING.—The Censors of the Suffolk District Medical Society will meet for the examination of candidates at the Medical Library, No. 8 The Fenway, Thursday, May 4, 1922, at 4 o'clock. Candidates should make personal application to the Secretary, and present their medical diploma at least one week before the examination. Richard H. Miller, Secretary, 402 Marlborough St., Boston.

THE AMERICAN ASSOCIATION OF ANAESTHETISTS AND THE MID-WESTERN ASSOCIATION OF ANAESTHETISTS will hold a joint meeting in St. Louis, May 23-24, at Hotel Jefferson, the first three days of the A.M.A.

BETH ISRAEL HOSPITAL.—There will be a Clinical Meeting in the Auditorium, Thursday evening, April 27, 1922, at 8:15 P. M. Program: The Present Status of Diabetic Treatment, by Dr. Elliott P. Joslin. Discussion: Dr. F. Gorham Brigham, Dr. B. H. Ragle, and Dr. Harry Linenthal. Physicians are cordially invited. Telephone Roxbury 5340. Refreshments will be served. E. Granville Crabtree, M.D., Sec.

HARVARD MEDICAL SOCIETY.—A meeting of the society was held in the Peter Bent Brigham Hospital Amphitheatre Tuesday evening, April 25, 1922. Sir Cutler Wallace of London was the speaker of the evening, his subject being "St. Thomas's Hospital."

HARVARD MEDICAL SCHOOL RESEARCH CLUB.—At the next meeting of the Research Club to be held on Friday, April 28th, in the Amphitheatre of Building A, at 12:30 o'clock Mr. George DeBord will talk on "Studies in Bacterial Metabolism," and Dr. H. Weiss will talk on "The Serum Therapy of Botulism."

MIDDLESEX SOUTH DISTRICT SOCIETY.

At the Annual meeting held April 19, at the American House, the committee appointed to present a memorial of the life of Dr. George Alexander Oviatt reported the following:

DR. GEORGE ALEXANDER OVIATT, 1849-1922.

Dr. George Alexander Oviatt, a member of this Society, died at the Waltham Hospital, February 26, 1922, of broncho-pneumonia, terminating several months' illness from cancer of the liver.

Dr. Oviatt was born in Boston March 30, 1849. His father, Rev. George A. Oviatt, a man of saintly, consecrated life, was the first minister of Shawmut Church, Boston. His mother, Isabella G. Parker, of Boston, a niece of Judge Joel Parker of Cambridge, was a refined and gracious woman. He married Ella A. Hunt of Sudbury, who survives him, also a son, grandson, and sister.

Dr. Oviatt graduated from Yale in 1872 and from the College of Physicians and Surgeons, New York, in 1875. He commenced practice at once in Sudbury and continued his work there for 46 years. For 12 years he served as councillor of the Massachusetts Medical Society, for three years he was librarian of this Society, and for two years president of the Framingham Medical Society. He had also been Associate Medical Examiner of the Ninth Massachusetts District for 10 years.

He was interested in the affairs of his town, serving as a member of the Board of Health, of the School Committee, Trustee of the Goodnow Public Library, and as School Physician.

He was a member of the American Medical Association, the Massachusetts Medical Society, the Massachusetts Medico-Legal Society, the Boston Medical Library Association, and the Wayland Society of Arts and Crafts.

He published articles in THE BOSTON MEDICAL AND SURGICAL JOURNAL, and an historical address on "Ye Ancient Physician of Sudbury Old Towne." He was fond of music and played at different times the organs in Sudbury and Wayland.

Dr. Oviatt was a well-trained, kind and sympathetic physician. For 46 years he responded cheerfully by day and by night to all calls from the suffering, the poor and the needy. The people in his district will long remember his unselfish and devoted life. He was an honor to our profession.

LEGISLATIVE MATTERS.—The Committee on Ways and Means has declined to recommend an increased salary for Miss Riddle, chairman of the Board of Registration of Nurses. The midwife bill still reposes in the hands of the Committee on Ways and Means.

RECENT DEATH.

DR. EDWARD JOHN BREANTON died at Dorchester April 15, 1922, aged 44. He was a graduate of the Tufts College Medical School in the class of 1905. joined the Massachusetts Medical Society in 1909, and practiced in Dorchester. He had been a councillor of the State Medical Society since 1920.